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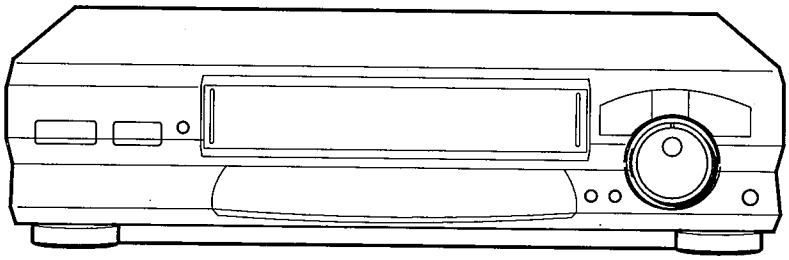
1994

MITSUBISHI

Service Manual

VIDEO CASSETTE RECORDER

VHS



MODEL

HS-U500
HS-U550
HS-U500(C)
HS-U550(C)

Only cassettes marked VHS can be used with this video cassette recorder.

SPECIFICATION

Tape Format	:	VHS 1/2" high-density video cassette tape
Power Source	:	120V AC; 60Hz
Power Consumption	:	Approx. 29W
Television System	:	EIA standard(525lines, 60fields) NTSC color signal
Video Recording System	:	VHS standard
Luminance	:	Frequency modulation recording
Color Signal	:	Low frequency conversion subcarrier phase shift recording
Hi-Fi Audio Recording System	:	VHS standard Frequency modulation, deep layer recording
Linear Audio Track	:	1 track
Tape Speed	:	1-5/16 i.p.s(standard play) 7/16 i.p.s(extended play)
Record/Playback Time	:	160min. with T-160 cassette (SP mode) 480min. with T-160 cassette (EP mode)
Heads:Video	:	4 rotary heads
Hi-Fi Audio	:	2 rotary heads
Audio/Control	:	1 stationary head
Erase	:	1 full track head

Video Input	:	0.5 to 2.0Vp-p, 75Ω unbalanced RCA pin plug
Audio Input:Line	:	−6dBs, 50kΩ unbalanced RCA pin plug
Video Output	:	1.0Vp-p, 75Ω unbalanced RCA pin plug
Audio Output	:	−6dBs, 1kΩ unbalanced RCA pin plug
TV Tuner		
VHF	:	54~168MHz, 174~468MHz
UHF	:	470~890MHz
Operating Temperature	:	41° F to 104° F
RF Channel Output	:	Channel 3 or 4, switchable
Weight	:	Approx. 12.3lbs
Dimensions	:	16.7"(W) 3.7"(H) 13.3"(D)
Timer	:	8 programs for any channels in one month/every week/Monday to Friday. 12 hour digital synchronized clock with integrated quartz oscillator frequency.
Deck	:	J Deck

- Weight and dimensions shown are approximate.
- Design and specifications are subject to change without notice.

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CONTENTS

SAFETY PRECAUTIONS

INTRODUCTION

This manual provides service information for the adjustments of mechanical and electrical operations.
Due to design modifications, the servicing procedures and data given in this manual are subject to possible change without prior notice.

WARNING: Many of the programs broadcast by television stations are protected by copyright and Federal law imposes strict penalties for copyright infringement. Some motion picture companies have taken the position that home recording for noncommercial purposes is an infringement of their copyrights. Until the courts have ruled on the proper interpretation of the law as applied to home video recording, this equipment, if used to record copyrighted material, should be operated at the user's own risk.

WARNING:
TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.
This video cassette recorder should be used with AC 120V, 60Hz only.

SAFETY NOTICE

Before returning VCR to the customer a safety check of the entire VCR should be made. The service technician must be sure that no protective device built into the instrument by the manufacturer has become defective or inadvertently damaged during servicing. Observe all caution and safety related notes located on or inside the VCR cabinet.
WARNING: Alterations of the design or circuitry of this VCR should not be made. Any design alterations or additions, such as circuit modifications, auxiliary speaker jacks, switches, grounding, active or passive circuitry, etc., or use of unauthorized camera, cables, accessories, etc. may alter the safety characteristics of this VCR and potentially create a hazardous situation for the user. Any design alterations or unauthorized additions will invalidate the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting from them. Do not lubricate any motors. When reassembling the VCR, always be certain that all the protective devices are put back in place, such as non-metallic control knobs, shield plates, etc. When service is required, observe the original lead dress. Components that show evidence of overheating or other electrical or mechanical damage should be replaced.

LEAKAGE CURRENT CHECK

Before returning the VCR to the customer, it is recommended the leakage current be measured by the following methods.

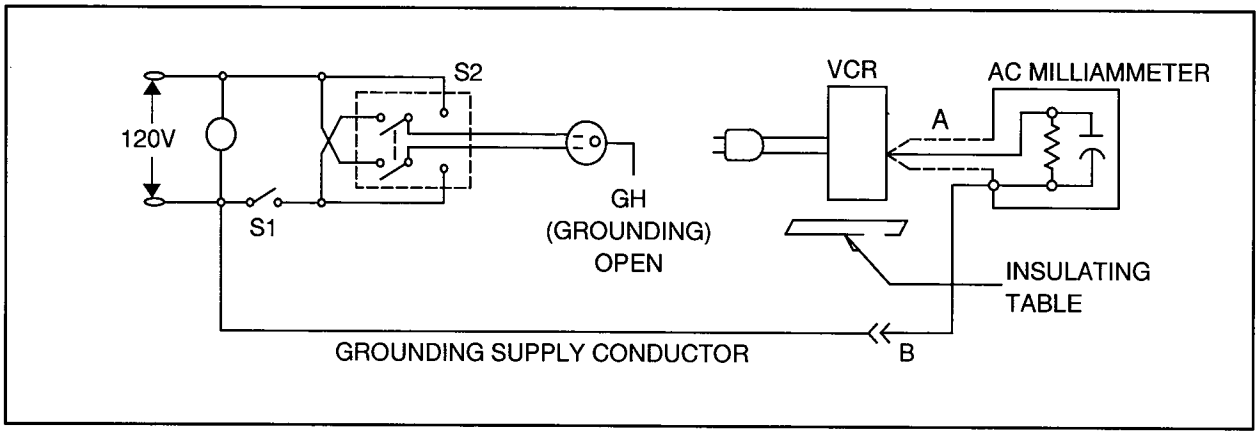
1. Cold Check
With the AC plug removed from the 120V AC source, place a jumper across the two AC plug prongs. Turn the AC switch on. Using an ohmmeter, connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (metal cabinet, screwheads, metal overlays, controlshafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistance reading of 1 MΩ. Any resistance below this value indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

2. Hot Check

The test sequence, with reference to the measuring circuit in Fig.1 is as follows:

(1) With switch S1 open, connect the VCR to the measuring circuit. Immediately after connection, measure the leakage current using both positions of switch S2 and with the switching devices in the VCR in all of their operating positions.

(2) Close switch S1, energizing the VCR, and immediately after closing the switch, measure leakage current using both positions of switch S2, and with the switching devices in the VCR in all of their operating positions. Repeat the current measurements of items (1) and (2) after the VCR has reached thermal stabilization. The leakage current should not be more than 0.5 mA.



AC Leakage Test

Avoid shock hazards. Do not connect this VCR to a TV antenna, cable or accessory that exhibits excessive leakage currents. If available, the television instrument or cable to which this VCR is connected should have the antenna cold check and leakage current hot check performed.

PRECAUTIONS

Handing and storage

- Avoid using the VCR in the following places:
  - — extremely hot, cold or humid places,
  - — dusty places,
  - — near appliances generating strong magnetic fields,
  - — places subject to vibration,
  - — poorly ventilated areas.
- Be careful of moisture condensation.
- If you poor a cold liquid into a glass, water vapor in the air will condense on the surface of the glass. This is called moisture condensation.
- Moisture condensation on the head drum, one of the most critical parts of the VCR, will cause damage to the tape.
- The VCR is equipped with a moisture condensation prevention circuit. This circuit operates only when the unit is attached to an AC outlet.
- Handle the VCR carefully.
- Do not block the ventilation openings.
- Do not place anything heavy on the recorder.
- Do not place liquids on the top cover of the recorder.
- Use the Recorder in horizontal (flat) position only.
- In case of transportation:
- Avoid violent shocks to the recorder during packing and transportation.
- Before packing, be sure to remove the cassette from the recorder.

CONNECTION

Connecting separate antennas (UHF/VHF)

Connecting the Television

To connect separate UHF/VHF antennas to the VCR:

❶ Disconnect the antennas from the back of your TV.

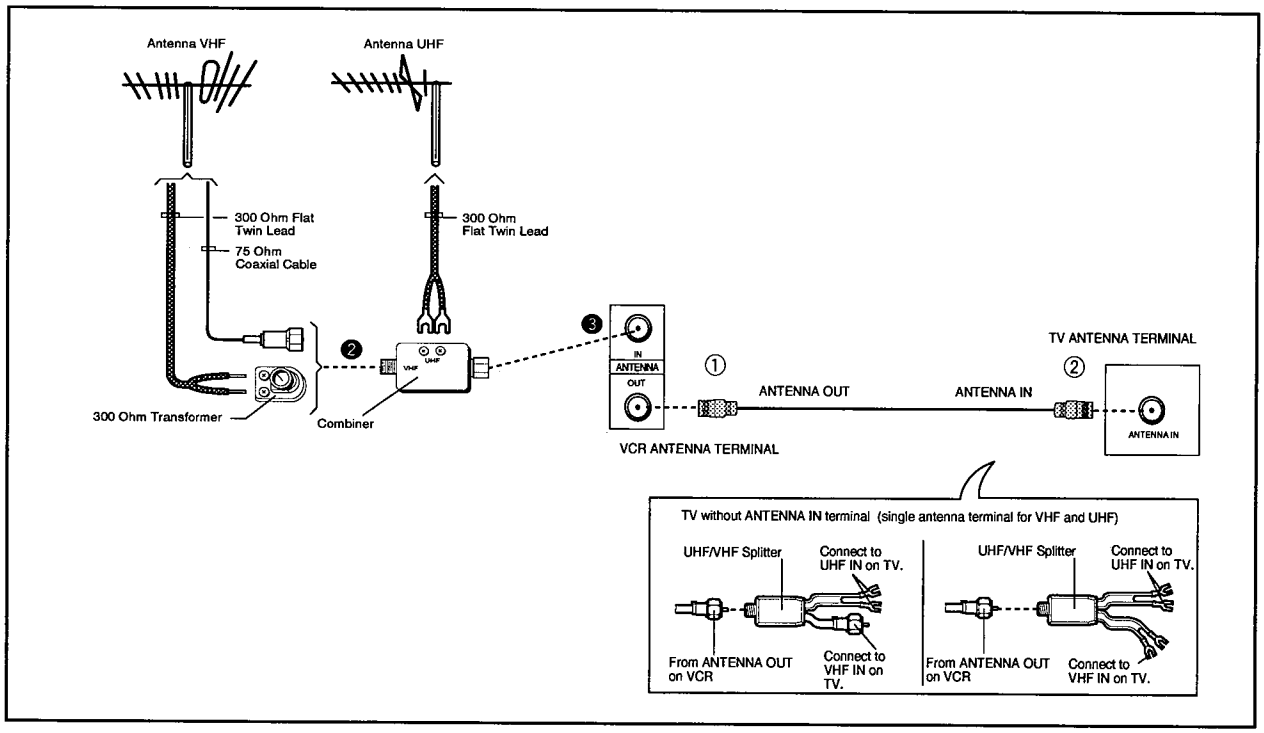
❷ Connect the antenna leads to the combiner.

❸ Screw or push the combiner onto the ANTENNA terminal on the VCR labeled ANTENNA IN.

❹ When you are finished, refer to "Connecting the Television" to complete your connections.

Now that you've completed the antenna connections to your VCR, you're ready to connect the VCR to the TV. Because every television is different (especially older model TVs), your VCR may need to be connected in a variety of ways. See the Owner's Manual for Instruction Information ON:

- **Determining if you need a splitter,**
- **Connecting TVs with audio and video inputs.**



Connecting a regular TV to the VCR

Before connecting the VCR to the TV, you should already have completed the cable or antenna connections to the VCR. (If you have not already done so.)

To connect a regular TV to the VCR:

① Take the black cable that is supplied with your VCR (called a coaxial cable) and connect it to the ANTENNA terminal on the VCR labeled ANTENNA OUT.

② Connect the other end of this cable to the terminal on your TV labeled ANTENNA IN. (This terminal may also be labeled VHF IN.) If you have an older TV without this kind of terminal, you will have to use a splitter and then connect the splitter to the television.

DISASSEMBLY

Note: Any screw can be used between 669D448030 securing the boss of the molded parts(silver) and 669D220030 (preferred part) for replacement because they are compatible with each other in service.

1. Removal of Top Cover

① Remove the two Top Cover fastening screws (ⓐ and ⓑ) shown in Fig. 1 and remove the Top Cover in the direction shown by the arrows.

2. Removal of Front Panel

① Remove the Top Cover, refer to Para. 1.

② Unfasten seven catches (ⓒ~ⓘ), two on the top, two on the side, and three on the bottom, and remove the Front Panel in the direction shown by the arrows.

Note: Remove the Jog Dial and the Shuttle Ring before removing the Front Panel.

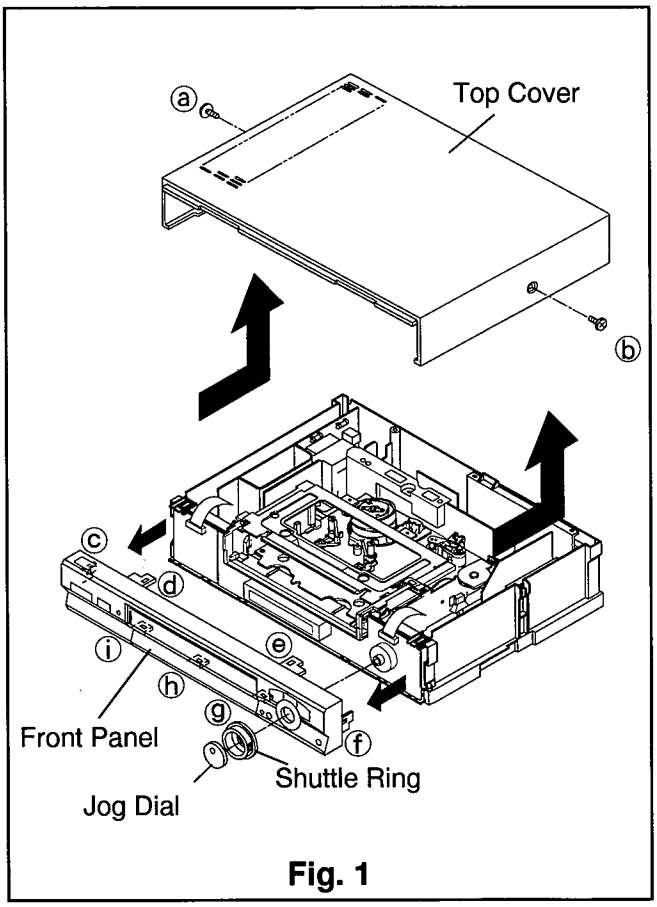


Fig. 1

3. Removal of Bottom Cover

① Remove five fastening screws (ⓐ~ⓔ) shown in Fig. 2.

② Push the two inside hooks (ⓕ and ⓖ), holding the Bottom Cover and slide the Bottom Cover toward the rear to remove it.

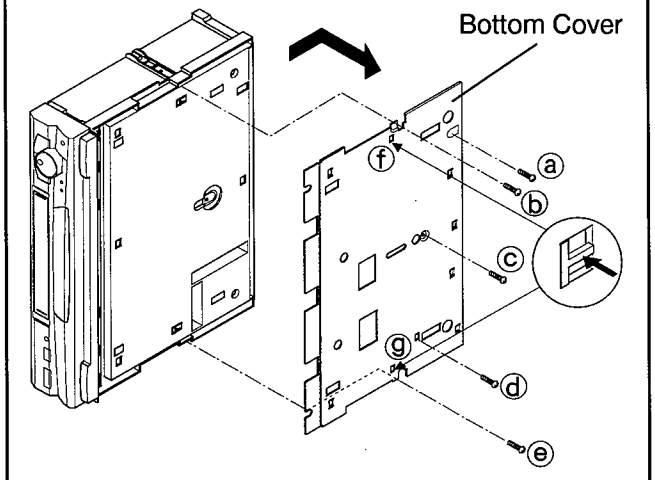


Fig. 2

4. Removal of Assy Deck

① Remove the Top Cover, refer to Para. 1.

② Remove the three fastening screws (ⓐ, ⓑ and ⓒ) on the bottom of the set shown in Fig. 3.

③ Remove the five screws (ⓓ~ⓗ) holding the Assy Deck, shown in Fig. 4, and disconnect the connector ML, MM and ME.

④ Slowly raise slowly the Assy Deck upward to remove it.

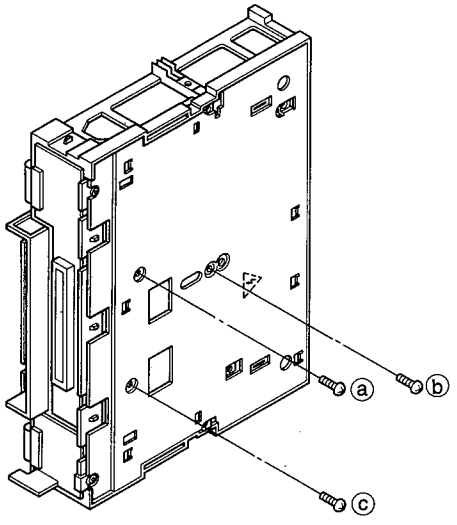


Fig. 3

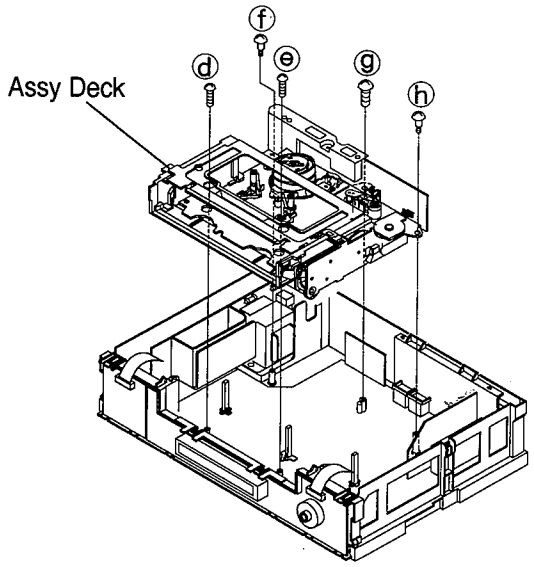


Fig. 4

5. Removal of Barrier

① Pull the part ⓐ of the barrier and remove it, as shown in Fig. 5.

※ Caution in installation.

Insert the convex part of the barrier into the slit at the side of Assy Deck. Put the other end of the barrier in the inside of the partition.

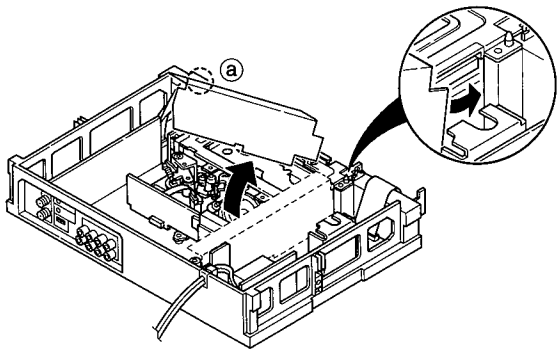
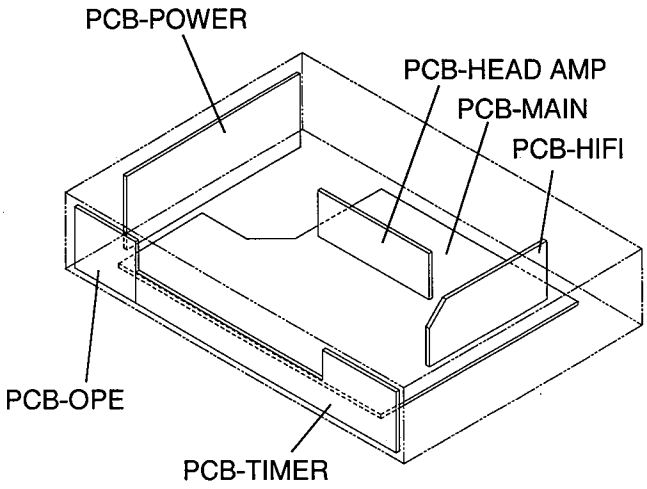


Fig. 5

HOW TO EXECUTE CIRCUIT BOARD SERVICE

CAUTION: BEFORE ATTEMPTING TO REMOVE OR REPAIR ANY PCB, UNPLUG THE POWER CORD FROM THE A.C. SOURCE.



Note:

- Take caution when removing flat cables to prevent any contact problem.
- Connect and disconnect the flat cables at right angles to the connector and make sure they are completely secured.
- After servicing the PCB, restore the flat cable and leads to their former state.

1. PCB-MAIN

① Remove the Top Cover, refer to Para. 1 of the DISASSEMBLY. Servicing on the components side of the MAIN-PCB is partially possible.

② Remove the Front Panel, refer to Para. 2 of the DISASSEMBLY, and remove eight fastening screws referred to ①, ② in Para. 4 of the DISASSEMBLY. (Do not disconnect the connector [ML].)

③ Raise the front side of the ASSY-F/L-J upward as shown in Fig. 6 and support it with a screw driver, etc. Servicing on the components side is now possible.

④ If necessary, remove the Assy Deck refer to Para. 4 of the DISASSEMBLY. Remove one fastening screw (ⓐ) on the bottom and two fastening screws (ⓑ and ⓒ) on the Antenna Terminal Board shown in Fig. 7 and raise the PCB-MAIN upward to remove it.

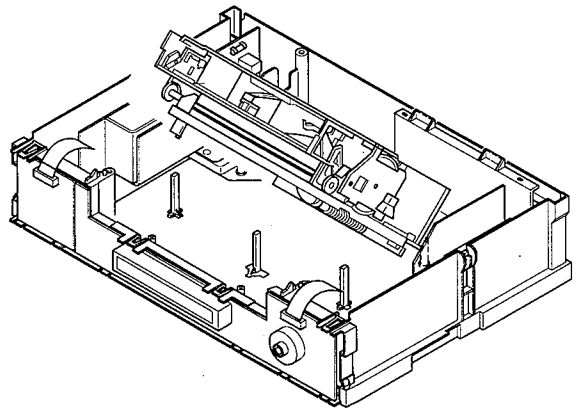


Fig. 6

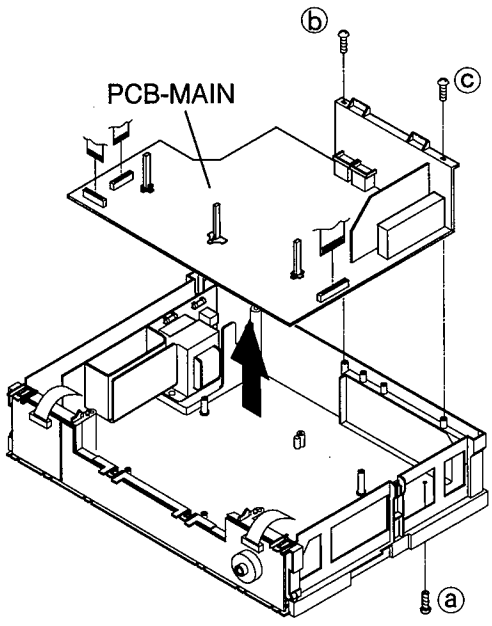


Fig. 7

2. PCB-HIFI

① Remove the Top Cover refer to Para. 1 of the DIS-ASSEMBLY. Servicing on the component side is possible.

② If necessary, remove the PCB-MAIN referring to the preceding paragraph. Unfasten five catches (ⓐ~ ⓔ) on the Antenna Terminal Board shown in Fig. 8 and raise the PCB-HIFI upward to remove it.

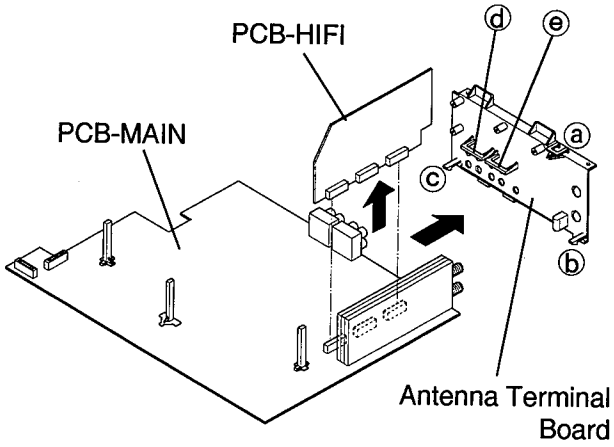


Fig. 8

3. PCB-TIMER/OPE

① Remove the Top Cover, refer to Para. 1.

② Remove the Front Panel, refer to Para. 2 of the DIS-ASSEMBLY.

③ Remove one fastening screw (ⓐ) and ten catches (ⓑ~ⓚ) shown in Fig. 9 to remove the PCB-TIMER/OPE.

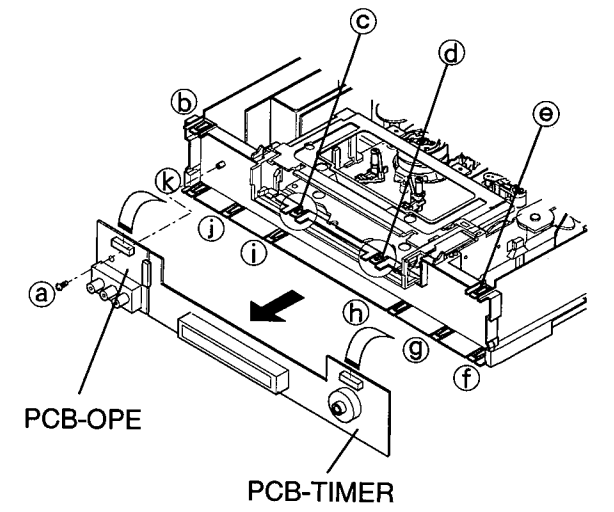


Fig. 9

4. PCB-HEAD AMP

① Remove the Top Cover refer to Para. 1 of the DISASSEMBLY. Servicing on the copper side is possible.

② If necessary, remove the Assy Deck, refer to Para. 4 of the DISASSEMBLY. Raise the Shield Cover upward to remove it. Disconnect three terminals (ⓐ, ⓑ and ⓒ), remove three fastening screws (ⓓ, ⓔ and ⓕ) shown in Fig. 10 and disconnect the connectors of Head FE, A/C Head, and Motor CP to remove the PCB-HEAD AMP.

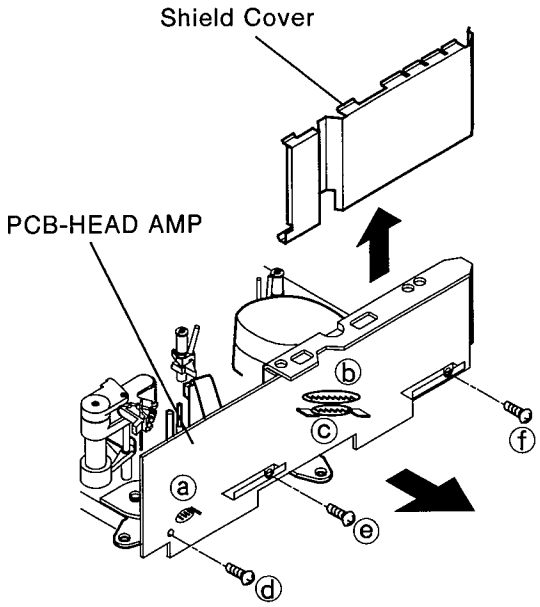


Fig. 10

5. PCB-POWER

① Remove the Top Cover, refer to Para. 1 of the DISASSEMBLY.

② Remove the holder of AC power cord from the Base Chassis shown in Fig. 11.

③ Disconnect the connector PC (for Power receptacle) on the PCB-POWER.

④ Remove one fastening screw (ⓐ) on the bottom shown in Fig. 11 and two screws (ⓑ and ⓒ : 669D221O40) holding the transformer, and raise the PCB-POWER SUB to remove it.

⑤ To service the component side, remove three screws (ⓓ, ⓔ and ⓕ) retaining the Heat Sink.

CAUTION:

Power regulators are damaged if power supply is turned on without installing the Heat Sink.

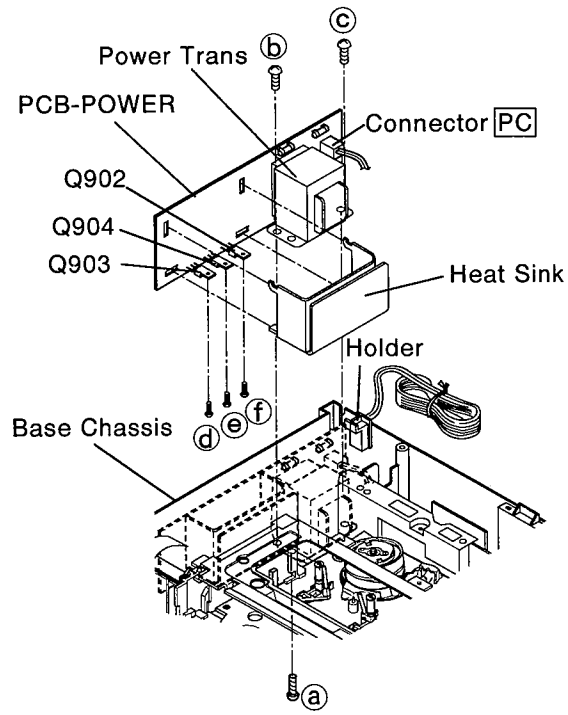


Fig. 11

HOW TO INITIALIZE E²PROM

E²PROM is initialized before shipping, so E²PROM must be initialized when replaced.

Initialize E²PROM following the step below.

1. Set the VCR to "Set the clock" mode.
2. Push AUDIO FUNCTION button on the remote hand unit for 8 seconds.

PROVIDING DUMMY SIGNAL FOR SERVICE POSITIONS [B] AND [C]

Refer to page 10 for Service Position Information.

■ Function check for PB, REC, FF and REW Mode

- Cover the Start and End Sensors with an Infra-red opaque material e.g. black vinyl tape etc..
- The reel sensor must provide input "rotating" signals to the microprocessor. To provide a dummy reel rotating signal, connect FF(Drum FF) to TP5J8 on PCB-MAIN.

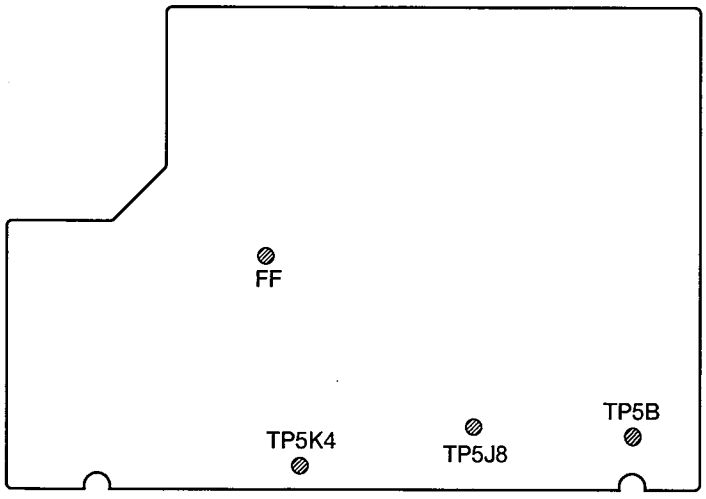
NOTE:

1) Because the Start and End sensors are disabled there will be a risk of END of TAPE damage in REW and FF Modes.
2) When TAPE EJECT is necessary, disconnect the mains supply and reinstall the DECK ASSY to the Service Position [A], restore power then EJECT the tape.

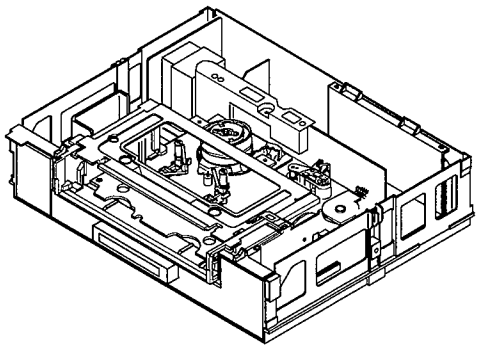
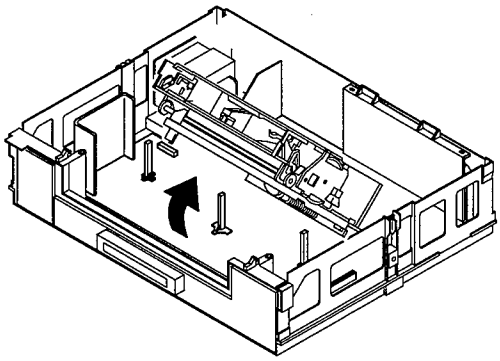
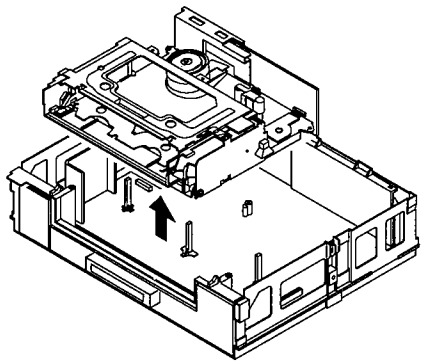
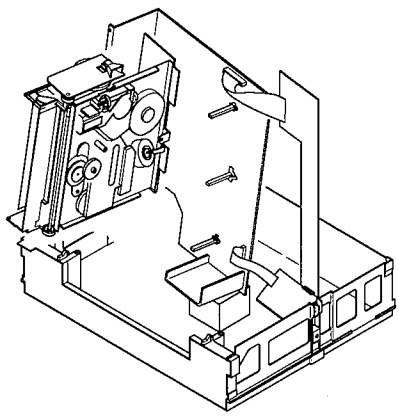
■ Record Protection Method

- To protect TEST TAPE(s) from accidental Record (erasure) during testing, connect TP5B (STBY 5V) to TP5K4 on PCB-MAIN .

PCB-MAIN(Component side)



When replacing parts or performing service adjustments, place the unit in the service positions shown below. Refer to page 9 for additional information about Service Positions.

Service Position	Service Item
(A) 	• Remove the top cover and the front panel. (1) Worn parts on the deck(upper drum, pinch roller assembly, A/C head, and FE head) can be replaced. (2) Checks at test points may be made to isolate a problem to a specific circuit.
(B) 	• Remove the screw holding the deck, raise the front side of the deck upward, and hold it with a screw driver etc. (1) Worn parts on the deck(reel belt, idler assembly, and capstan motor) can be replaced. (2) The performance of the deck can be checked. • The REC safety switch does not operate in position(B). • Set the deck to service position (A) and load the cassette tape. Then turn the power off and set the deck to service position (B). Cover the start and end sensors and short-circuit test points TP2H to TP5J8. Turn the power on and play the tape. (Do not use the start or end portion of the tape.) • If it is necessary to eject the tape, turn the power off and set the deck to the service position (A). Turn the power on again and eject the tape.
(C) 	• Remove the screw holding the deck to disconnect the deck from the connector. (1) Parts on the deck(drum assembly, PCB-HEAD-AMP, loading belt etc.) can be replaced. (2) The EE picture can be displayed by short-circuiting TP5X to TP5Y. (Short-circuit before turning the power on.) (Playback and recording operation can not be checked.)
(D) 	• Remove the deck together with the PCBs. Remove the PCB-TIMER. Insert the side plate of the chassis between the ribs on the supply side of the cassette housing. Stand the PCB on edge resting on an appropriate size support. • Cover the start and end sensors and short-circuit test points TP2H to TP5J8. (1) Damaged circuit or parts on the deck can be detected. (2) The performance of the deck can be checked as in service position (B).

Electrical Adjustments

Perform only the alignments required. If proper equipment is not available,do not attempt an alignment.

■ TEST EQUIPMENT

- •Oscilloscope (10:1 probe unless 1:1 specified)
- •Signal generator
- •Frequency counter
- •Direct current voltmeter
- •Audio tester
- •Miscellaneous electrical tools

■ TEST TAPES

- •NS-1 ..... Part No.859C339O00
  Stair step, Color Bars, RF, 1kHz audio (SP)
- •NC1KE6 ..... Part No.859C568O10
  Color Bars, 1kHz audio (EP)
- •NM1KH2 ..... Part No.859C568O20
  Monoscope, 1kHz Hi-Fi audio (SP)

■ JIGS

- •Carrier Checker ..... Part No.859C346O30
- •Record Current Jig ..... Part No.859C347O80

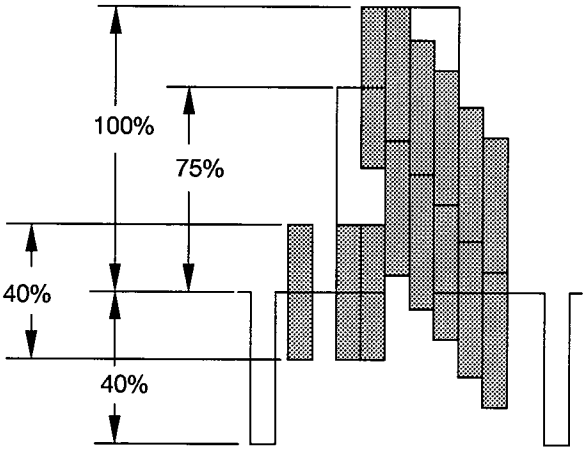
■ Test Signal

1).Monoscope signal

When you have no monoscope signal source for adjustment, connect the unit to a VCR and play an alignment tape(Monoscope).

2).Color bar signal

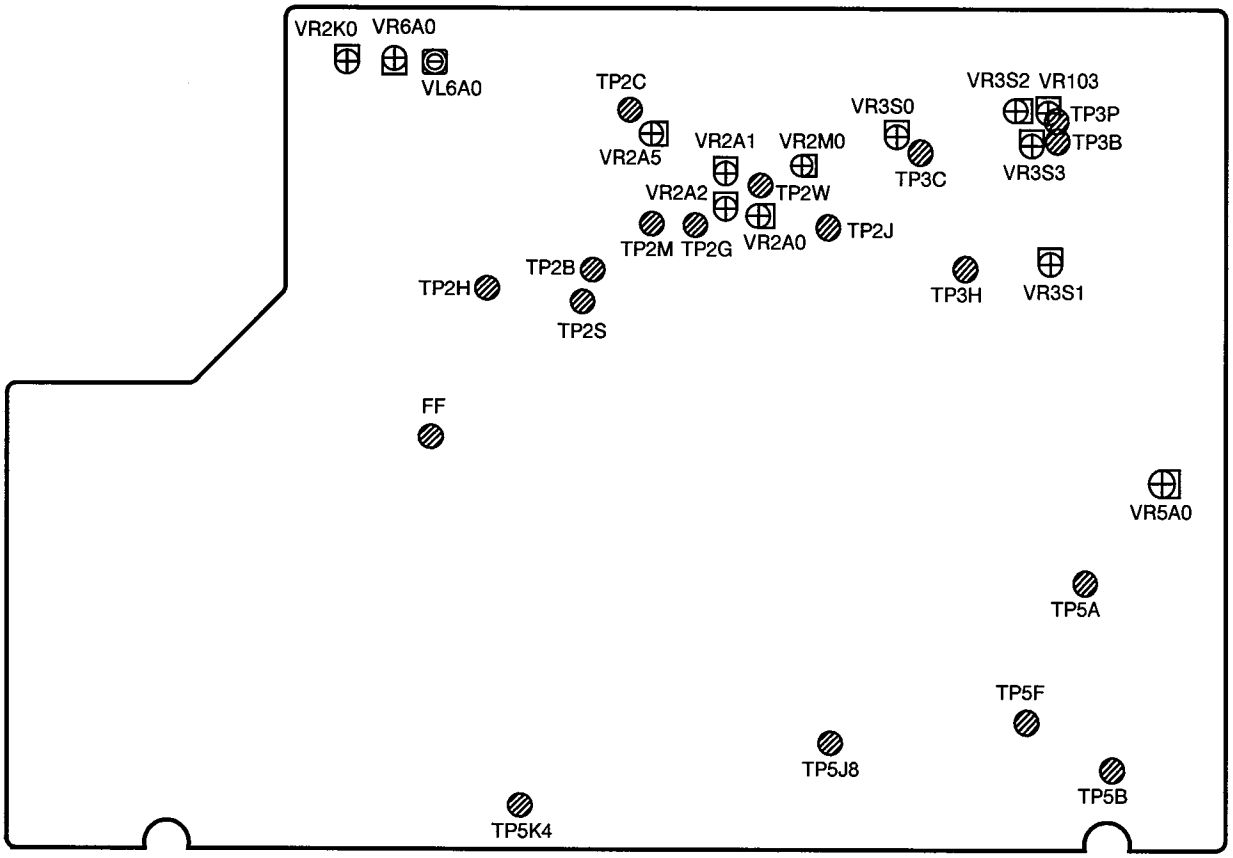
In this manual, unless otherwise specified, use the color bar signal in specified below.



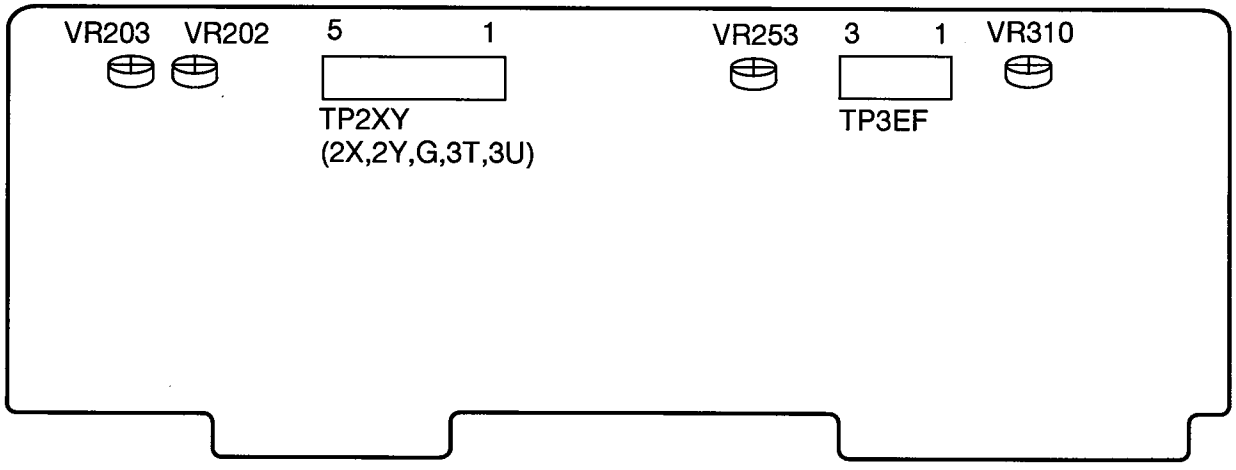
Split-Field color bar(with 100% window)

LOCATIONS

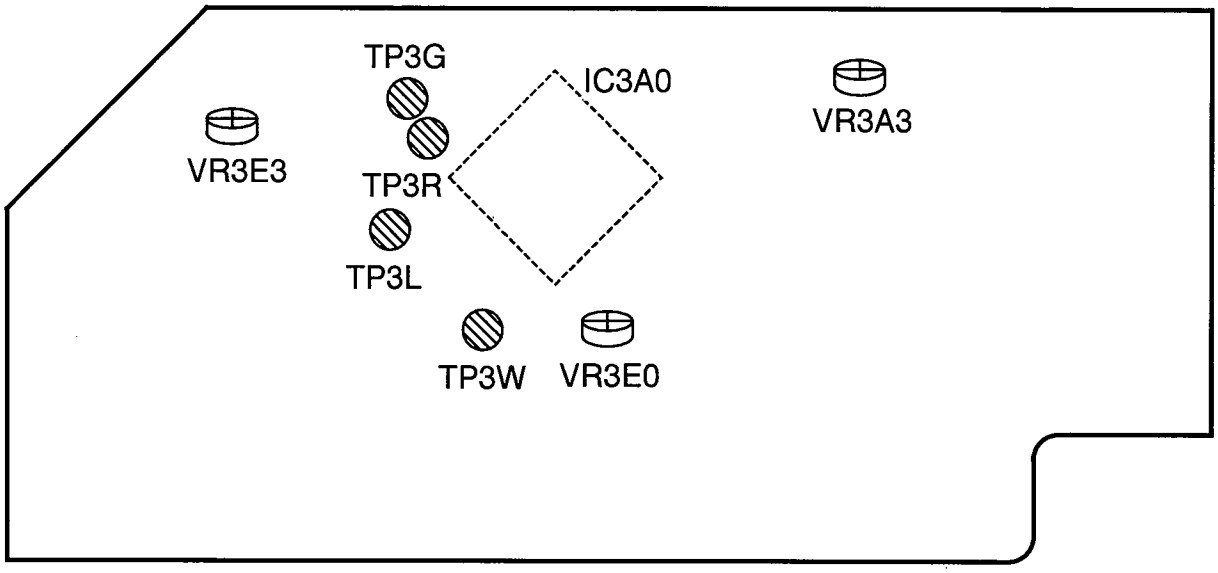
PCB-MAIN(Component side)



PCB-HEAD AMP(Component side)



PCB-HIFI (Component side)



[Servo circuit]
1. Playback Switching Point

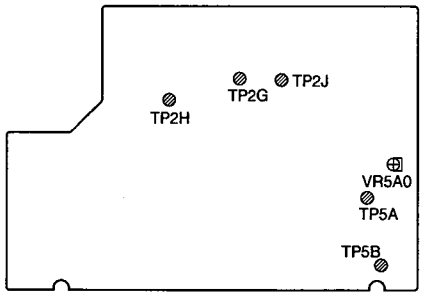
Adjustment purpose To set playback video head switching.

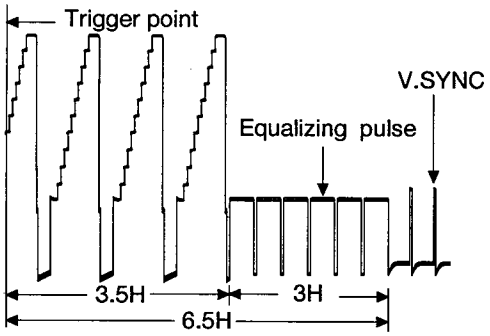
Symptom when incorrectly adjusted Switching noise or jitter in the playback picture.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2J	Using tape	Alignment tape (NS1, stair step)
EXT trigger	TP2H	VCR condition	Playback
Measurement range	DIV 20mV TIM 50 μs	Using Jig	—

1. Play back an alignment tape (NS1, stair step).
2. Short-circuit TP5A to TP5B. Confirm that the "DTR" displayed in Fluorescent Display flashes rapidly.
3. Observe the waveform at TP2J.
4. Set the oscilloscope's slope to (–).
5. Adjust VR5A0 so that the trigger point is located at 6.5±1.0H before the vertical synchronizing signal.

PCB-MAIN(Component side)





[Y/C signal circuit]
2.Clamp input Level

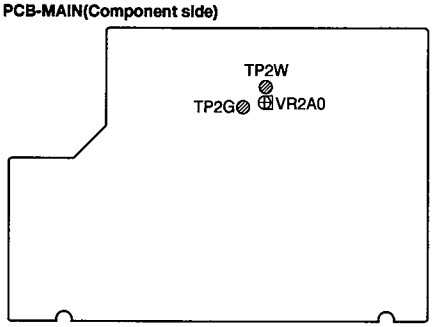
Adjustment purpose Set the level of video signal.

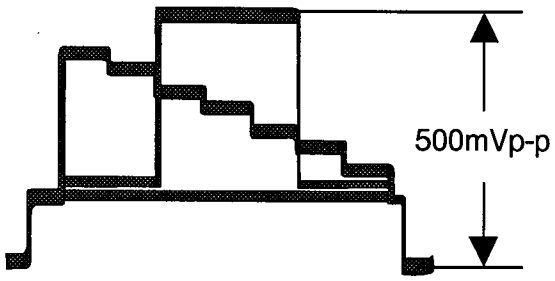
Symptom when incorrectly adjusted Blurred image, white and black streaking.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal(Color bar)
Test point	TP2W	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 10mV TIM 10 μs	Using Jig	—

1. Supply an RF signal (Color bar).
2. Observe the waveform at TP2W.
3. Adjust VR2A0 so that the amplitude of the waveform is 500mVp-p.

PCB-MAIN(Component side)





[Y/C signal circuit]
3. EE Output Level

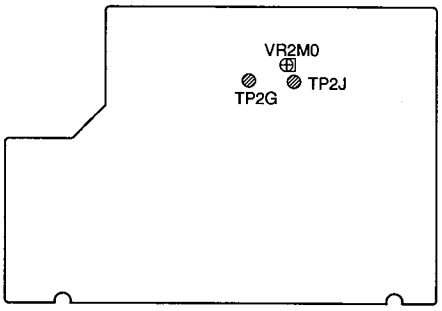
Adjustment purpose Set the output level of video signal in the STOP mode.

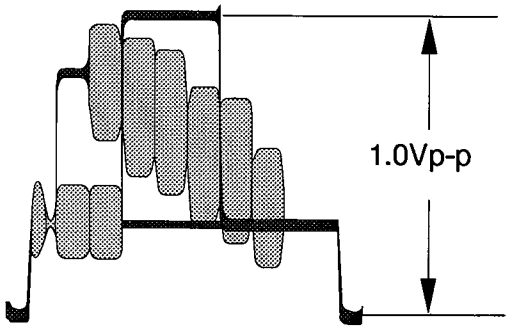
Symptom when incorrectly adjusted Picture too bright or too dark: incorrect color.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal(Color bar)
Test point	TP2J	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 20mV TIM 10 μs	Using Jig	—

1. Supply an RF signal (Color bar).
2. Be certain that nothing is connected to the VIDEO OUT terminal.
3. Observe the waveform at TP2J.
4. Adjust VR2M0 so that the amplitude of the waveform is 1.0Vp-p.

PCB-MAIN(Component side)





[Y/C signal circuit]
4. Carrier set, Deviation

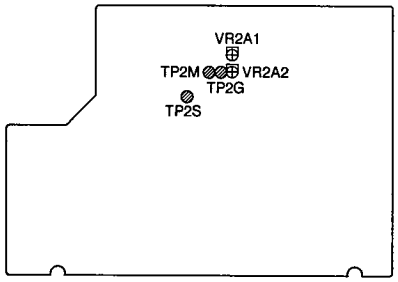
Adjustment purpose FM carrier frequency and deviation.

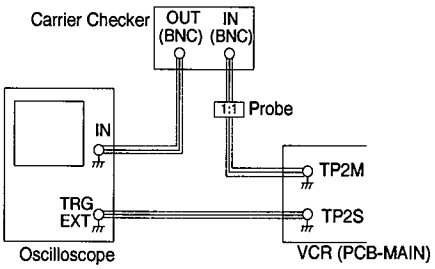
Symptom when incorrectly adjusted Too bright or too dark picture. Horizontal noise or loss of sync.

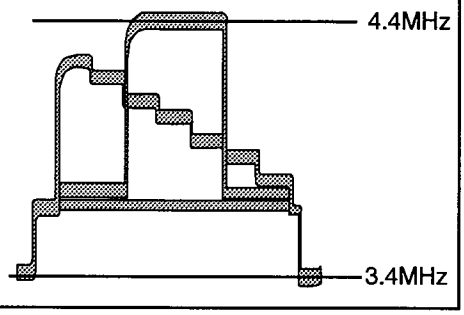
Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	RF signal(Color bar)
Test point	TP2M	Using tape	—
EXT trigger	TP2S	VCR condition	STOP
Measurement range	DIV 0.2V TIM 10 μs	Using Jig	Carrier checker

* Perform the Clamp input Level adjustment(Item 2) before making this adjustment.
1. Supply an RF signal (Color bar).
2. Observe the waveform at TP2M using a carrier checker as shown below.
3. Adjust VR2A2 so the sync tip is at 3.4MHz.
4. Adjust VR2A1 so the white peak is at 4.4MHz.

PCB-MAIN(Component side)







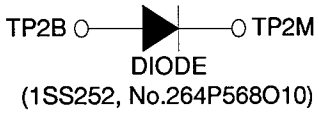
[Y/C signal circuit]
5.Y/C Recording Level

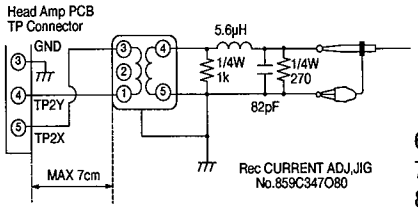
Adjustment purpose To set the level of the record video and color signals.

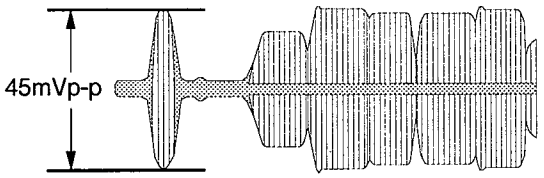
Symptom when incorrectly adjusted Low luminance S/N,beats,color banding or flicker.

Measuring instrument and condition		VCR set up condition	
Oscilloscope (Probe 1:1)		Input signal	RF signal(Color bar)
Test point	TP2XY (pin ④ and pin ⑤)	Using tape	A blank tape
EXT trigger	TP2S	VCR condition	EP REC
Measurement range	DIV 10mV TIM 10μs	Using Jig	REC CURRENT ADJ.JIG

* Preheat the set for 20sec or more.
1. Supply an RF signal (Color bar).
2. Set a VCR to EP REC mode.
3. Observe the waveform at TP2XY pin ④ and pin ⑤ using a REC CURRENT ADJ. JIG.
4. Connect a diode (1SS252) between TP2B and TP2M, as shown below.
5. Adjust VR202 so that a Burst level is 45mVp-p.

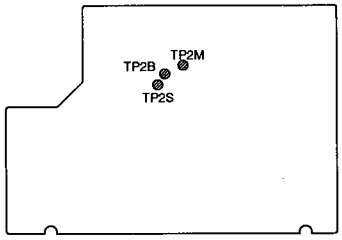




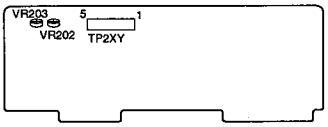


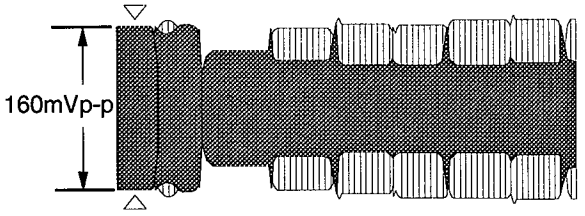
6. Set the oscilloscope's probe to 10:1.
7. Open-circuit TP2M and TP2B.
8. Adjust VR203 so that the amplitude of the horizontal sync is 160mVp-p.

PCB-MAIN(Component side)



PCB-HA/AUDIO(Component side)





[Y/C signal circuit]
6. Playback Video Output Level

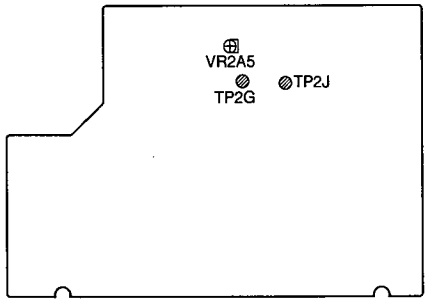
Adjustment purpose Video output level during playback.

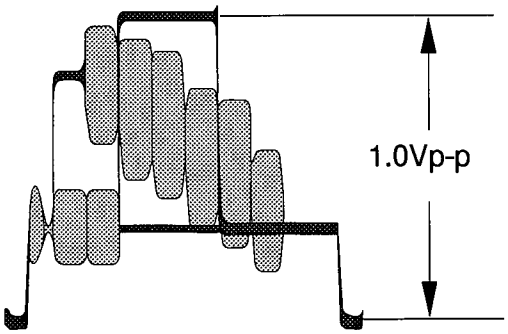
Symptom when incorrectly adjusted Incorrect contrast and color.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2J	Using tape	Alignment tape (NS1, color bar)
EXT trigger	—	VCR condition	Playback
Measurement range	DIV 20mV TIM 10μs	Using Jig	—

* Perform the Clamp input Level and EE Output Level adjustments (Item 2, 3) before making this adjustment.
1. Play back an alignment tape (NS1, color bar).
2. Be certain that nothing is connected to a VIDEO OUT terminal.
3. Observe the waveform at TP2J.
4. Adjust VR2A5 so that a video output level is 1.0Vp-p.

PCB-MAIN(Component side)





[Y/C signal circuit]
7. C-COM

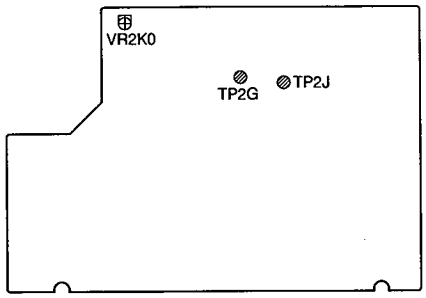
Adjustment purpose Set up of Chroma separation level to remove Y signal from Y/C signal.

Symptom when incorrectly adjusted Interfence beats in the picture.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2J	Using tape	Alignment tape (NC1KE6)
EXT trigger	—	VCR condition	Still
Measurement range	DIV 10mV TIM 10μs	Using Jig	—

1. Play back an alignment tape (NC1KE6).
2. Set a VCR to Still mode.
3. Be certain that nothing is connected to a VIDEO OUT terminal.
4. Observe the waveform at TP2J.
5. Turn VR2K0 fully clockwise, then gradually counter-clockwise until vibration is minimum in the area of the waveform representing the green bar.

PCB-MAIN(Component side)



[Normal Audio circuit]
8. Audio Bias level

Adjustment purpose Audio bias level setting for record.

Symptom when incorrectly adjusted Poor Audio high frequency response.

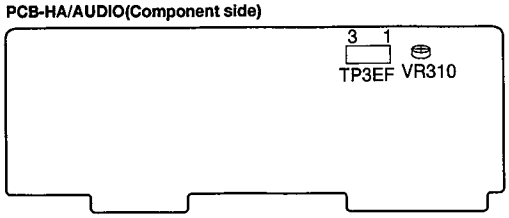
Measuring instrument and condition		VCR set up condition	
Audio Tester		Input signal	Video signal (Color bar)
Test point	TP3EF① TP3EF③	Using tape	A blank tape
EXT trigger	—	VCR condition	SP REC
Measurement range	—	Using Jig	High pass filter

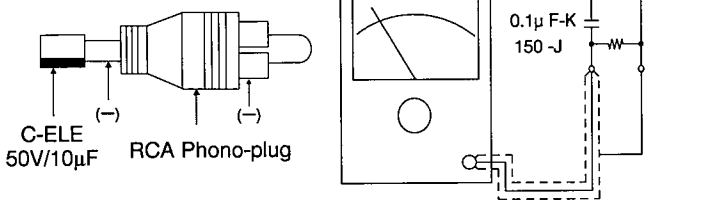
1. Supply a video signal (Color bar).
2. Insert a Shorted RCA type Phono-plug into the AUDIO IN terminal.
3. Set the INPUT button on the remote hand unit to EXT(L1) mode.
4. Set the VCR to SP REC mode.
5. Observe the audio level at TP3EF①, ③ with an Audio Tester using a high pass filter.
6. Confirm that the monitor TV etc. does not affect the indication of the audio tester and then adjust VR310 so that the level is 2.8mVr.m.s.

Note 1:
Be sure that the audio tester housing does not touch the VCR chassis.

Note 2:
Never set the VCR to PLAY mode with the audio tester connected.
(The audio amplifier will be overloaded.)

PCB-HA/AUDIO(Component side)



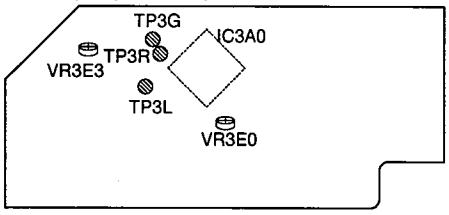


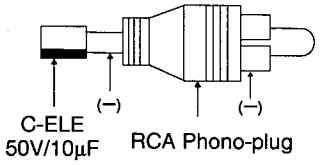
【 Hi-Fi Audio circuit 】 9. OSC Frequency	**Adjustment purpose** Set the FM carrier frequency of Hi-Fi audio signal. **Symptom when incorrectly adjusted** Buzz in the sound.

Measuring instrument and condition		VCR set up condition	
Frequency Counter		Input signal	—
Test point	TP3R	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	—	Using Jig	—

1. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
2. Set the INPUT button on the remote hand unit to EXT(L1) mode.
3. Insert a Shorted RCA type Phono-plug into the AUDIO IN terminal.
4. Observe the frequency at TP3R.
5. Adjust VR3E3 so that the frequency is 1.7MHz.
6. Observe the frequency at TP3L.
7. Adjust VR3E0 so that the frequency is 1.3MHz.

PCB-HIFI(Component side)



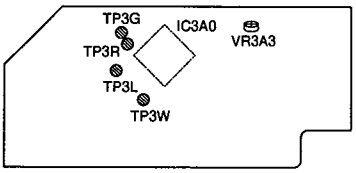


【 Hi-Fi Audio circuit 】 10. B.P.F	**Adjustment purpose** Set the characteristic of the filter to separate the FM signals of 1.3MHz and 1.7MHz in playback mode. **Symptom when incorrectly adjusted** Buzz in the sound.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	1.5MHz sinewave
Test point	CH-1: TP3L CH-2: TP3R	Using tape	DUMMY tape
EXT trigger	—	VCR condition	Playback
Measurement range	DIV 5mV TIM 5ms	Using Jig	—

1. Supply a sine wave (1.5MHz/250mVp-p) to TP3W.
2. Play back a dummy tape.
3. Observe the waveform at TP3L and TP3R.
4. Adjust VR3A3 so that the amplitude of the waveforms at TP3L and TP3R are the same level.

PCB-HIFI(Component side)



[Hi-Fi Audio circuit]
11. FM REC Level

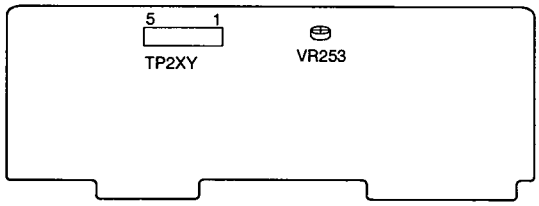
Adjustment purpose Set the of record level of Hi-Fi audio signal.

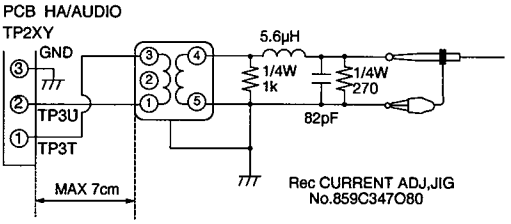
Symptom when incorrectly adjusted Wow/flutter in audio.Poor S/N in video signal.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	—
Test point	TP2XY (pin ① and pin ②)	Using tape	A blank tape
EXT trigger	—	VCR condition	SP REC
Measurement range	DIV 5mV TIM 50μs	Using Jig	REC CURRENT ADJ. JIG

* Start this adjustment 20sec or more after the REC starts.
1. Supply no signal.
2. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
3. Set the INPUT button on the remote hand unit to EXT(L1) mode.
4. Connect the AUDIO IN terminals to GND (L-CH and R-CH).
5. Observe the waveform at TP2XY pin ① and pin ② using the REC CURRENT ADJ. JIG.
6. Set a VCR to SP REC mode.
7. Adjust VR253 so that the amplitude of the waveform is 280mVp-p.

PCB-HA/AUDIO(Component side)





[Multi Sound circuit]
12. Stereo LPF

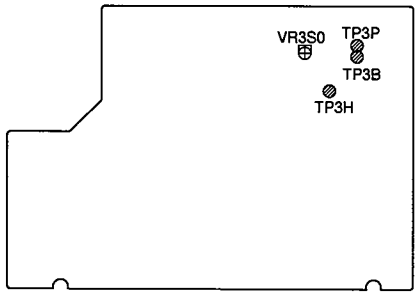
Adjustment purpose Set the characteristics of the Stereo and SAP filters by adjusting Stereo LPF characteristic.

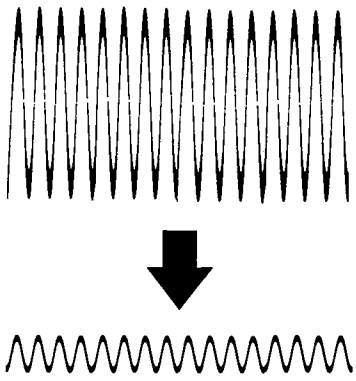
Symptom when incorrectly adjusted Low detection sensitivity or poor S/N.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal(Color bar)
Test point	TP3H	Using tape	—
EXT trigger	TP3B	VCR condition	STOP
Measurement range	DIV 5mV TIM 50μs	Using Jig	—

1. Supply an RF signal (color bar).
2. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
3. Set the INPUT button on the remote hand unit to TUNER mode.
4. Connect TP3P to ground.
5. Supply a 22.9kHz, 0.7Vp-p sine wave to TP3B.
6. Observe the waveform at TP3H.
7. Adjust VR3S0 so that the amplitude of the waveform is minimum .

PCB-MAIN(Component side)





[Multi Sound circuit]
13. Stereo VCO

Adjustment purpose Set up of Reference Frequency for MCS signal detection.

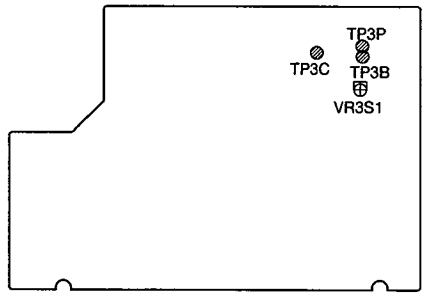
Symptom when incorrectly adjusted Unable to detect Multi Sound, no broadcast stereo.

Measuring instrument and condition		VCR set up condition	
DC Voltmeter		Input signal	—
Test point	TP3C	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	—	Using Jig	—

1. Supply no signal.
2. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
3. Set the INPUT button on the remote hand unit to TUNER mode.
4. Connect TP3P to ground.
5. Observe a DC voltage at TP3C with no input signal at TP3B.
6. Supply a 15.734kHz, 138mVp-p sine wave to TP3B.
7. Adjust VR3S1 so that the DC voltage at TP3C is equivalent to the value in step 5.

Note:
Once the adjustment is completed, connect an oscilloscope to TP3C and observe the signal. Confirm that the waveform present is stable and without spurious components.

PCB-MAIN(Component side)



[Multi Sound circuit]
14. SIF Output Level

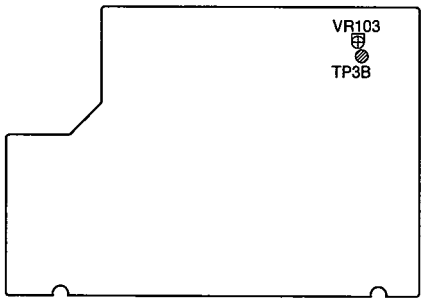
Adjustment purpose Set the Audio output level.

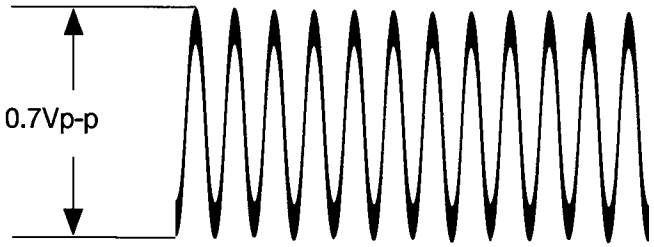
Symptom when incorrectly adjusted Too loud or too low audio level.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal (Audio signal 400Hz,100%)
Test point	TP3B	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 10mV TIM 2ms	Using Jig	—

1. Supply an RF signal (Audio signal ; 400Hz,100%MOD.).
2. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
3. Set the INPUT button on the remote hand unit to TUNER mode.
4. Ground TP3B through a capacitor (4700pF-J).
5. Observe the waveform at TP3B.
6. Adjust VR103 so that the amplitude of the waveform is 0.7Vp-p.

PCB-MAIN(Component side)





[Multi Sound circuit]
15. Separation

Adjustment purpose Set up of Multi Sound separation characteristic in Tuner and Multi Sound demodulation circuit.

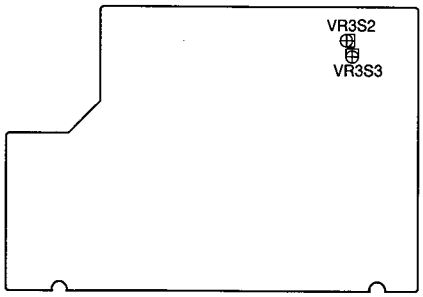
Symptom when incorrectly adjusted Poor Multi Sound L/R separation, poor stereo.

Measuring instrument and condition		VCR set up condition	
Oscilloscope		Input signal	RF signal (Audio signal 300Hz,100%)
Test point	AUDIO OUT terminal (R-CH)	Using tape	—
EXT trigger	—	VCR condition	STOP
Measurement range	DIV 50mV TIM 2ms	Using Jig	—

1. Supply an RF signal (Audio signal 300Hz, 100%MOD).
2. Set the AUDIO button on the remote hand unit to Hi-Fi mode.
3. Set the INPUT button on the remote hand unit to TUNER mode.
4. Preset VR3S2 to the mechanical center position.
5. Observe an audio level at the R-CH AUDIO OUT.
6. Adjust VR3S3 for minimum 300Hz.
7. Supply an RF signal (Audio signal 3kHz,100%).
8. Observe an audio level at the R-CH AUDIO OUT.
9. Adjust VR3S2 for minimum 3kHz.
10. Repeat adjustment procedure 5 to 9.

Note:
R-CH audio signal has no modulation.

PCB-MAIN(Component side)



[Timer circuit]
16. Clock Frequency Correction

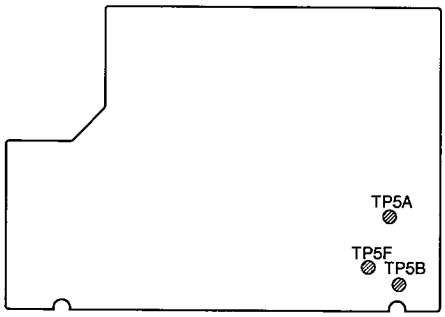
Adjustment purpose Accuracy of clock.

Symptom when incorrectly adjusted Poor clock accuracy.

Measuring instrument and condition		VCR set up condition	
Frequency Counter		Input signal	—
Test point	TP5F	Using tape	—
EXT trigger	—	VCR condition	Power off
Measurement range	—	Using Jig	—

1. Short-circuit TP5A to TP5B.
2. Observe the frequency at TP5F.
3. Be certain that the frequency is between 262.1000 ~ 262.1882kHz.
4. Use the number buttons on the remote hand unit to enter the last three digits of the frequency counter reading (262.1ⓐⓑⓒkHz). Enter the digits in ⓐⓑⓒ sequence.
5. Push the REC button on a remote hand unit.
6. Open circuit TP5A and TP5B.

PCB-MAIN(Component side)



〔MEMO〕

MECHANICAL ADJUSTMENT AND REPLACEMENT

1.Cleaning of Deck

The following parts require cleaning whenever serviced to maintain satisfactory performance.

1-1 Video Head

A.Clean the video heads by the following method. Dust and other foreign objects on the video heads disturbs the normal playback picture:

Dampen a video head cleaning cloth with alcohol. Hold the cloth against the drum and turn the drum slowly counterclockwise to clean.

NOTE:

Do not directly touch the head attached to the upper drum. The head is very hard but brittle to impact,especially in the vertical direction.

Do not apply force in the vertical direction.

B.Allow residual alcohol to dry thoroughly before running tape. Otherwise, the liquid may stick to and damage the tape.

1-2 Tape Transport (Refer to Fig. 1-1.)

Clean the following parts of the tape transport.

1.Tension arm
2.Supply guide pole
3.FE head
4.Supply slant pole
5.Upper and lower drum
6.Takeup slant pole
7.A/C head
8.Takeup guide pole
9.Capstan shaft
10.Takeup guide arm

A.Clean the tape transport using gauze dampened with alcohol,except the supply guide roller and takeup guide roller. If Guide rollers and pinch roller are stained with dust,clean them with dry gauze or replace them with new parts.

B.Allow residual alcohol to dry thoroughly before running a tape. Otherwise the liquid may stick to and damage the tape.

1-3 Reel Disk Drive System

Clean the reel disk braking surfaces and the reel belt.

A.Clean the reel disk braking surfaces with gauze dampened with alcohol.

- After the alcohol dries completely, perform "Adjustment of Back Tension and Tension Position" (Item 3-1).

B. If theReel belt is stained with dust,clean it with dry gauze or exchange it for a new part.

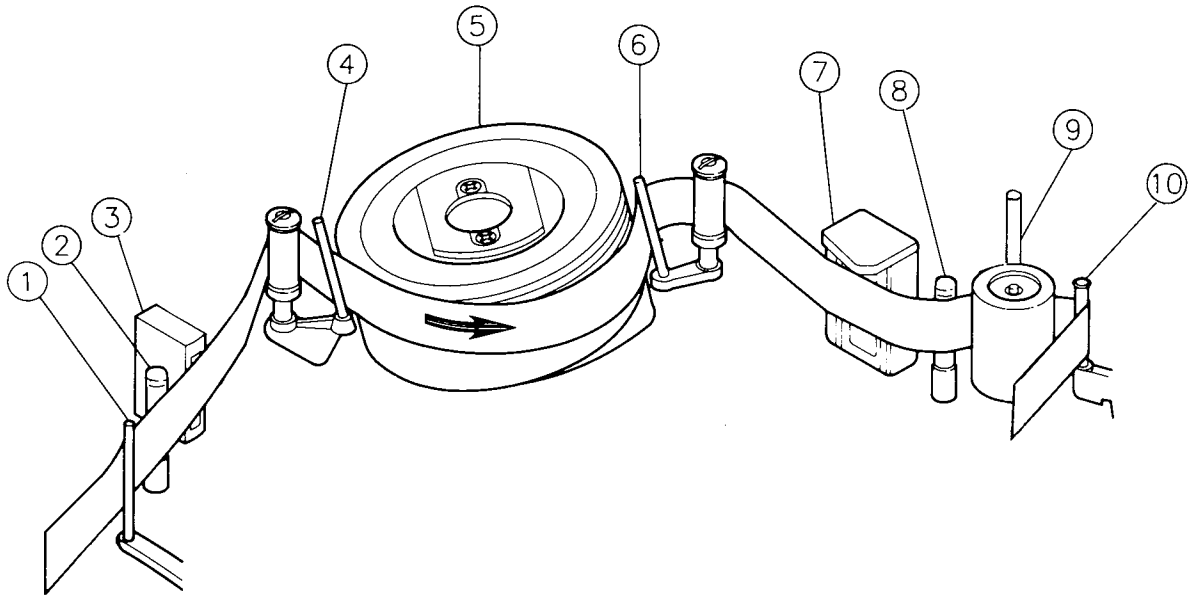


Fig. 1-1

2. Replacement of Major Parts

2-1 Cassette Housing

(Removal)

① Set the VCR to the eject mode.

② Remove the top cover and the front panel.

③ Unfasten the clamp holding the lead of the loading motor, which is attached to the side plate of the cassette housing. Unscrew the two cassette housing fastening screws(ⓐ and ⓑ). Slowly raise the cassette housing in the direction shown by the arrow.
(Refer to Fig. 2-1-1.)

(Installation)

① Make sure that the holes (matching mark M) on the body and cogwheel of the mode switch align with each other as shown in Fig. 2-1-2. At the same time confirm that the hole of the gear pinch aligns with the matching marks of the gear joint J and the ▽ mark on the mode switch cogwheel,refer to Fig. 2-19-5. This indicates the J deck is in the EJECT mode.

② If the deck is not completely set to the eject mode, turn part A of the pulley worm J by hand to set the eject mode. (Refer to Fig. 2-1-4)
Turn in the direction a ····· for loading
Turn in the direction b ····· for unloading

③ Slowly lower the cassette housing onto the main plate of the deck.

④ Make sure the record safety lever enters between the insert guide of the cassette housing and the shaft as shown in Fig. 2-1-3. Align the four points(ⓒ, ⓓ, ⓔ and ⓕ), located on the bottom of the housing with the matching holes in the deck. Secure the cassette housing on the deck with the two screws(ⓐ and ⓑ).
(Refer to Fig. 2-1-1.)

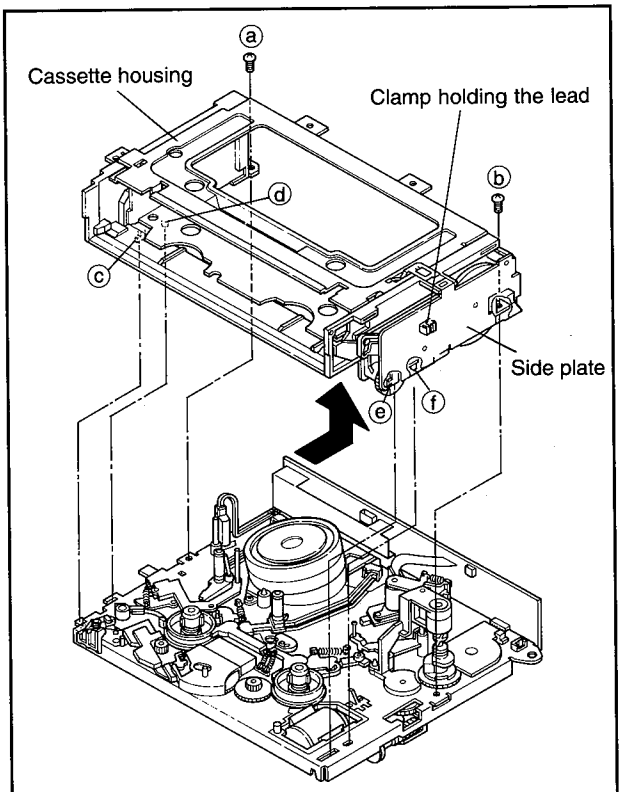


Fig. 2-1-1

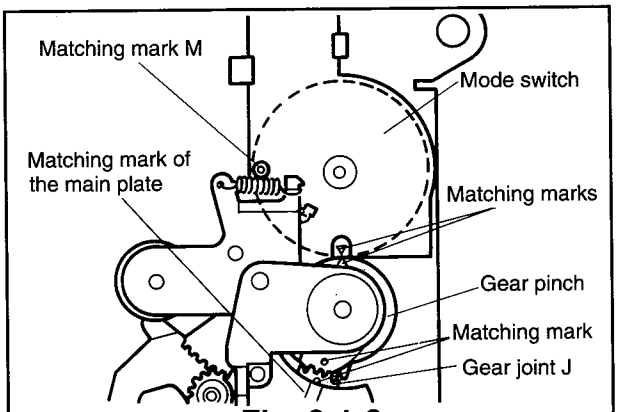


Fig. 2-1-2

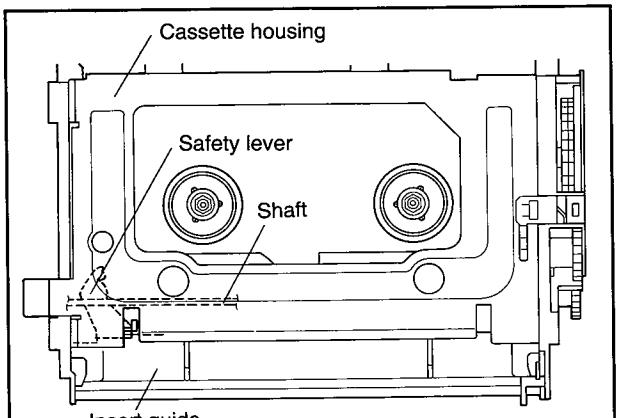


Fig. 2-1-3

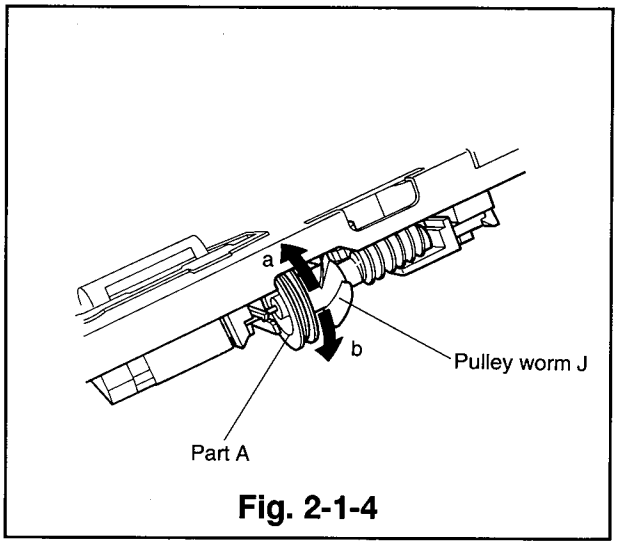


Fig. 2-1-4

2-2 Sense Gear, Drive Gear, Takeup Arm, and Arm Spring(TU)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Unfasten the four catches(ⓐ, ⓑ, ⓒ and ⓓ) as shown in Fig. 2-2-1 and remove the side plate.

③ Remove the sense gear.

④ Pull the lock levers on both the supply and takeup side, shown in Fig. 2-6-1, in the direction shown by the arrow to shift the bottom plate to the position shown in Fig. 2-6-2.

⑤ Remove the takeup arm.

⑥ Turn and pull the drive gear in the direction shown by the arrow to remove it from the sense gear as shown in Fig. 2-2-3.

⑦ Remove the arm spring(TU) from the takeup arm as shown in Fig. 2-2-4.

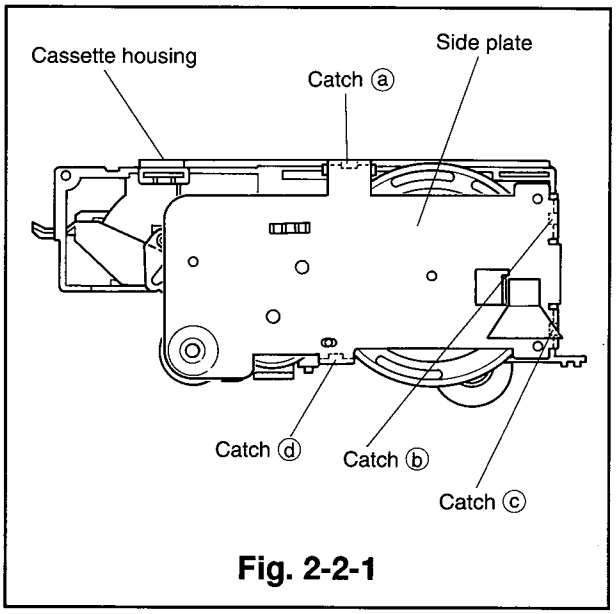


Fig. 2-2-1

(Installation)

① Apply the grease(G)[859D055050] to the area of the new takeup arm shown in Fig. 2-2-2 and 2-2-4.

② Apply the grease(G)[859D055050] to the area shown in Fig. 2-2-5 of the new sense gear.

③ Place the clip spring onto the drive gear hooking one end under the catch as shown in Fig. 2-2-5. Install the sense gear unto the drive gear so that hole A aligns with hole B. Hold the sense gear while turning the drive gear clockwise, in so doing engage the other end of the clip spring with the catch of the sense gear. The projection A of the sense gear must enter the hole B of the drive gear.

④ Ensure the spring action is effective by holding the sense gear and turning the drive gear slightly clockwise, observing whether the drive gear returns when released.

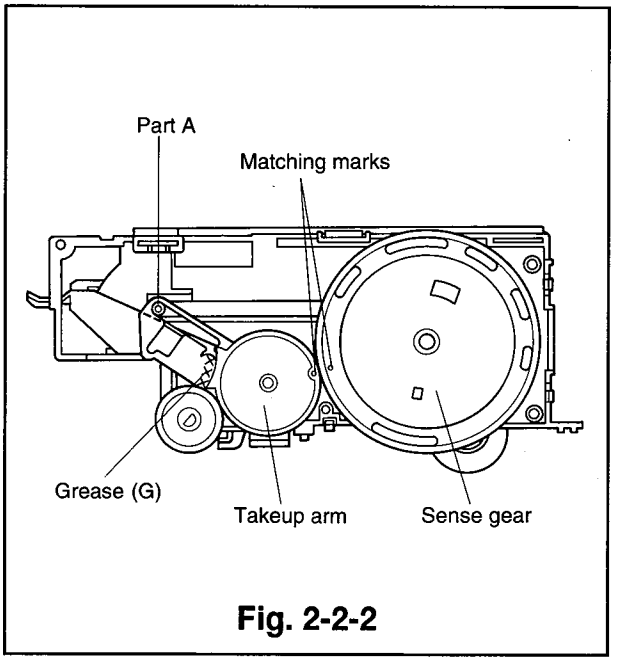


Fig. 2-2-2

⑤ Install the takeup arm so that the shaft attached to the bottom plate enters between the takeup arm and takeup spring after the bottom plate has been moved as shown in Fig. 2-6-2.

Note: Install the takeup arm so that the engaging point between the supply arm and the gear-S and that between the takeup arm and the gear-T are symmetrical as shown in Fig. 2-4-1.

⑥ Shift the bottom plate back to the eject position and install the sense gear so that the matching marks of the sense gear and the takeup arm align to each other as shown in Fig. 2-2-2.

⑦ Install the side plate.

⑧ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

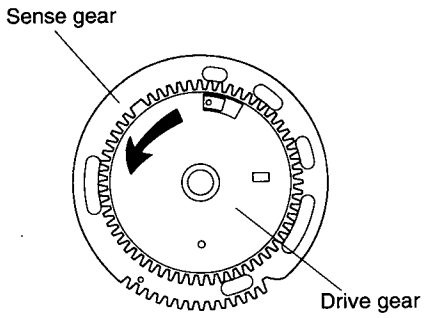


Fig. 2-2-3

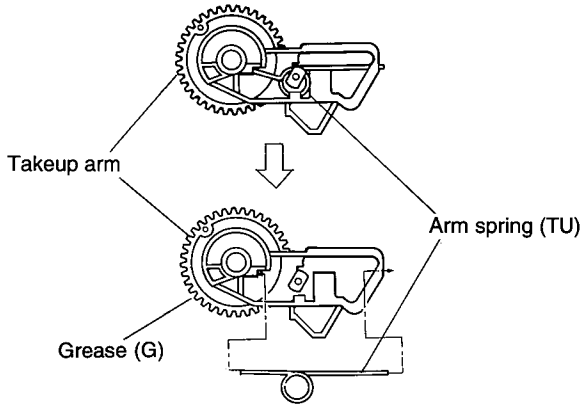


Fig. 2-2-4

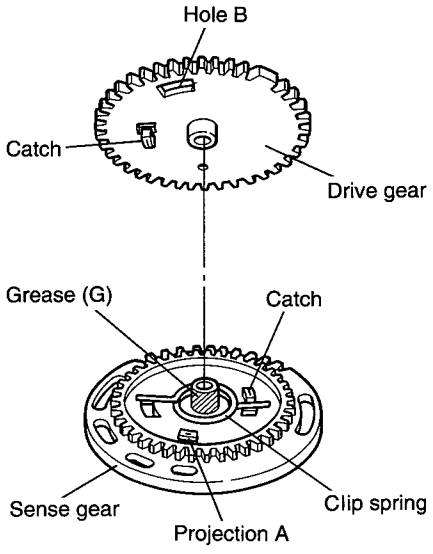


Fig. 2-2-5

2-3 Door Arm

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the side plate, sense gear, and takeup arm. (Refer to Para. 2-2 for the removal method.)

③ Unfasten the catch shown in Fig. 2-3-1 to remove the door arm. (The simple way is to pull the door arm at the same time as unfastening the catch.)

(Installation)

① Fix the door arm to the shaft A shown in Fig. 2-3-1 and secure it with the catch so that the parts A and B are inside of the cassette housing as shown in Fig. 2-3-2.

② Install the takeup arm, the sense gear, and the side plate. (Refer to Para. 2-2 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

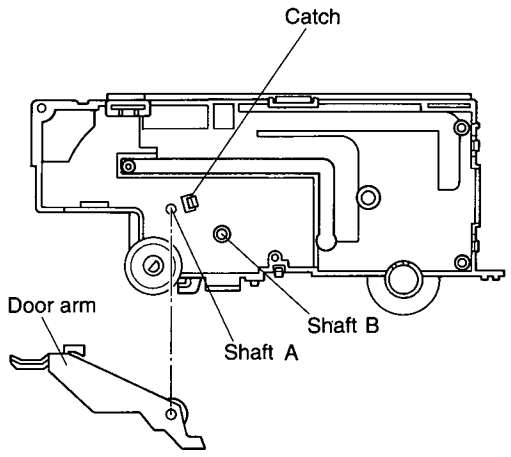


Fig. 2-3-1

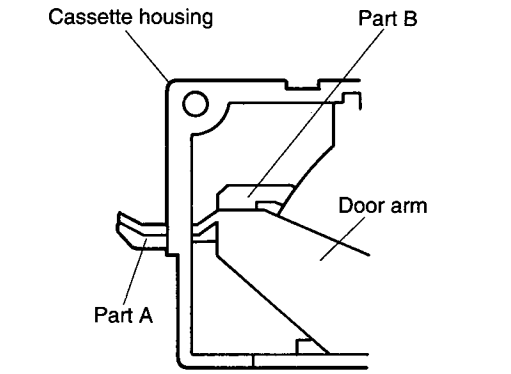


Fig. 2-3-2

2-4 Gear S and Gear T

(Removal)

① Follow the removal method in Items ① to ⑤ of Para. 2-2.

② Unfasten the catch fastening the gear T from the inside of the cassette housing to remove the FL shaft to which the gear S and T are attached.(Refer to Fig. 2-4-2)

③ Pull out the gear S and T from the FL shaft.

(Installation)

① Fix the gear S and T to the FL shaft.

② Install the FL shaft, first at the end attached to the gear T and then at the end to the gear S.

③ Follow the installation method in Item ⑤ to ⑧ in Para. 2-2.

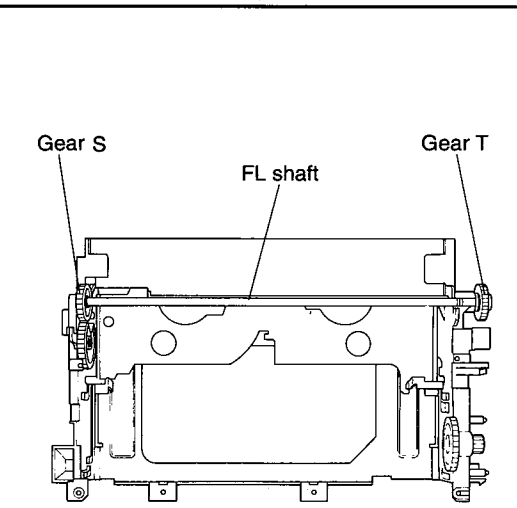


Fig. 2-4-1

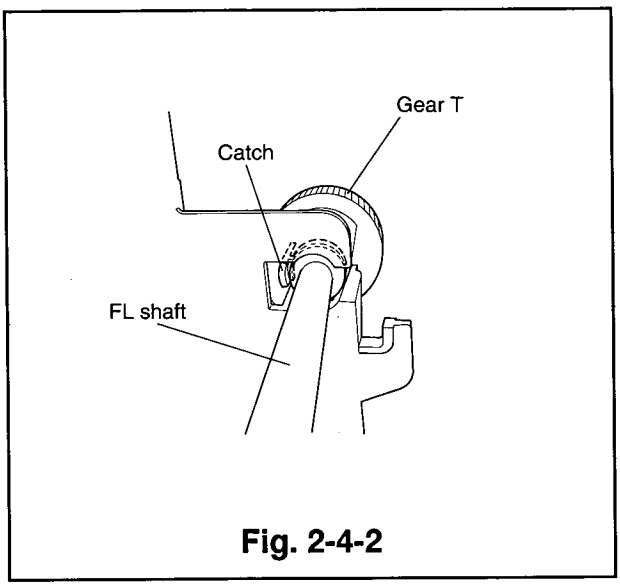


Fig. 2-4-2

2-5 Wheel Gear

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the side plate and sense gear. (Refer to Para. 2-2 for the removal method.)

③ Unfasten the catch shown in Fig. 2-5-1 to remove the wheel gear.

(Installation)

① Install the wheel gear on the position shown in Fig. 2-5-1 from the inside of the cassette housing.

② Install the sense gear and side plate. (Refer to Para. 2-2 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

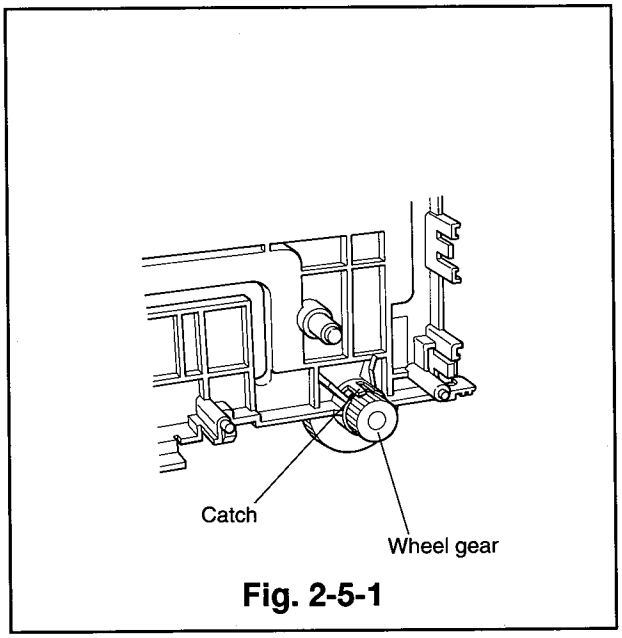


Fig. 2-5-1

2-6 Supply Arm and Arm Spring(SP)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the side plate.(Refer to Item ② of Para. 2-2 for the removal method.)

③ Remove the sense gear.(Refer to Item ③ of Para. 2-2 for the removal method.)

④ Pull the lock levers on both the supply and takeup side, shown in Fig. 2-6-1, in the direction shown by the arrow to shift the bottom plate to the position shown in Fig. 2-6-2.

⑤ Remove the takeup arm.(Refer to Item ⑤ of Para. 2-2 for the removal method.)

⑥ Pull part A, fixed to the supply arm, in the direction shown by the arrow to remove the bottom plate.(Refer to Fig. 2-6-3.

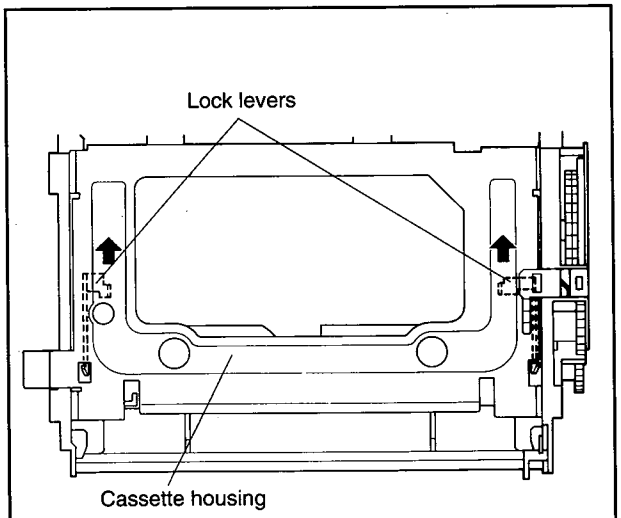


Fig. 2-6-1

⑦ Turn the supply arm in the direction shown by the arrow to shift part B, shown in Fig. 2-6-4, so that it aligns with the catch. Unfasten the catch to remove the supply arm.
⑧ Detach the arm spring from the supply arm as shown in Fig. 2-6-5.

(Installation)
① Attach the arm spring to the supply arm as shown in Fig. 2-6-5.
② Install the supply arm in the position shown in Fig. 2-6-4. (Align the catch with the part B of the supply arm.)
③ Insert the bottom plate so that the part A of it enters between the supply arm and the supply spring as shown in Fig. 2-6-3. Then install the bottom plate so that part C of it in the right position as shown in Fig. 2-6-6.
④ Follow the installation method in Item ⑤ to ⑧ in Para. 2-2.

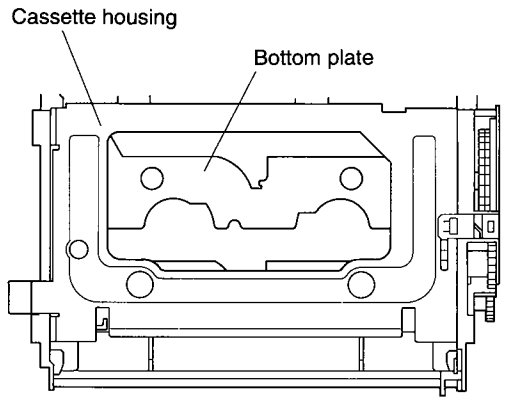


Fig. 2-6-2

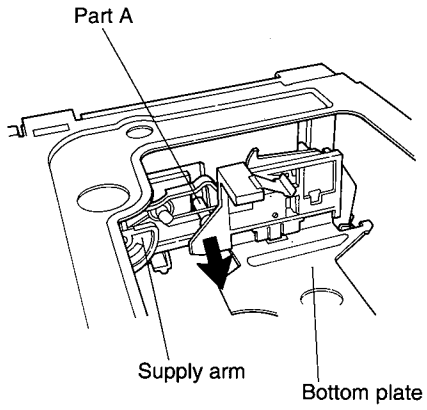


Fig. 2-6-3

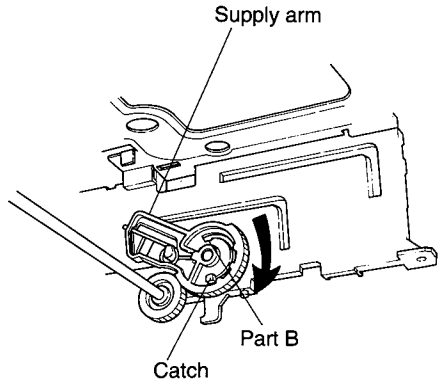


Fig. 2-6-4

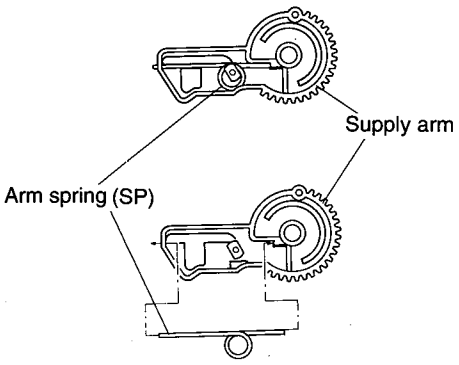


Fig. 2-6-5

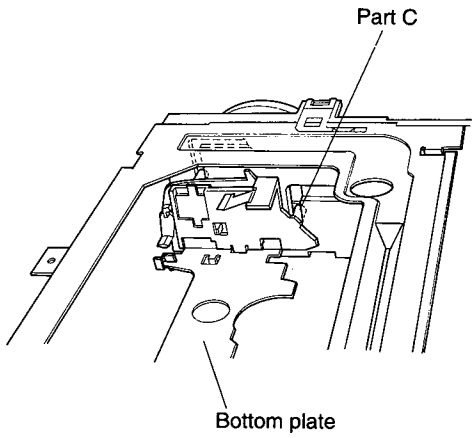


Fig. 2-6-6

2-7 Jut

(Removal)

① Follow the removal method in Items ① to ⑥ of Para. 2-6.

② Unfasten the four catches(ⓐ, ⓑ, ⓒ and ⓓ) shown in Fig. 2-7-1 to remove the jut and the jut spring.

(Installation)

① Install the jut and the jut spring as shown in Fig. 2-7-1. (Insert the jut spring into the part A of the jut before installing the jut. Hook one end of the jut spring with the outside of the catch(ⓐ) and the other end with part B of the jut.)

② Install the bottom plate according to the installation method in ③ of Para. 2-6.

③ Follow the installation method in Item ⑤ to ⑧ in Para. 2-2.

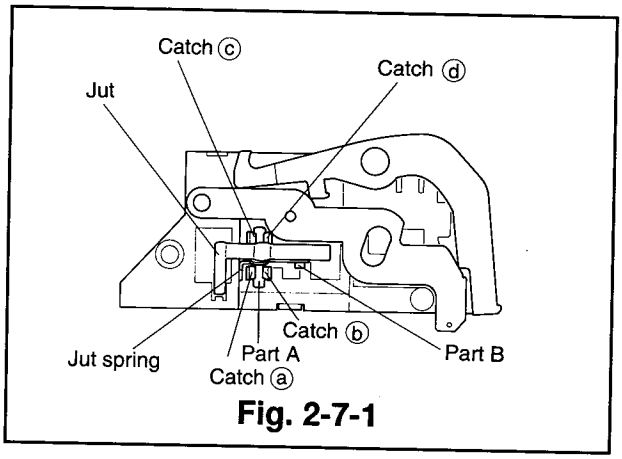


Fig. 2-7-1

2-8 PCB-HEAD-AMP

(Removal)

① Unfasten the hook and raise the head amp shield cover shown in Fig. 2-8-1 to remove it.

② Unsolder the terminals of the mode switch, the drum motor, and the rotary transformer shown in Fig. 2-8-1.

③ Lift the stopper of the A/C head assembly in Fig. 2-8-4 slightly upward and disconnect the lead connector(bare wire), connecting the PCB-HEAD-AMP and the PCB-A/C-HEAD.

④ Disconnect the lead connector(point A), connected to the FE head. (Refer to Fig. 2-8-2.)

⑤ Reverse the deck and disconnect the lead card, connecting the PCB of the capstan motor and the PCB-HEAD-AMP. (Refer to Fig. 2-8-3.)

⑥ Remove the three screws(ⓐ, ⓑ and ⓒ) and slowly pull the PCB-HEAD-AMP in the direction shown by the arrows. (Refer to Fig. 2-8-1.)

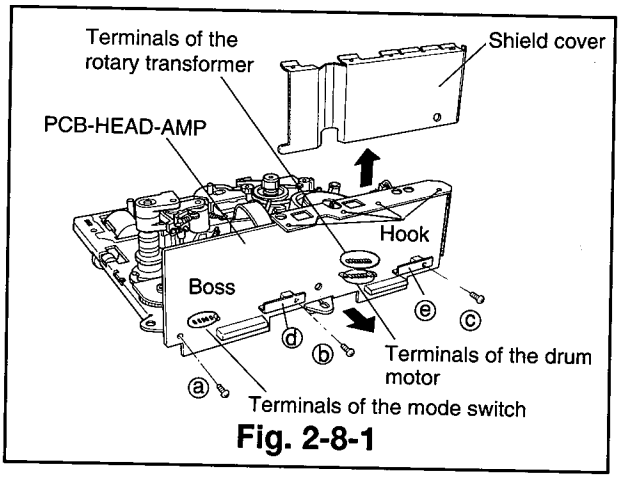


Fig. 2-8-1

(Installation)

① Insert the terminals of the mode switch, the drum motor, and the rotary transformer, and the boss, adjacent to the mode switch, in the matching holes on the PCB-HEAD-AMP and secure the PCB-HEAD AMP with the three screws(ⓐ, ⓑ and ⓒ) in the order, ⓑ→ⓒ→ⓐ.(Refer to Fig. 2-8-1)

② Solder the pins mentioned in Item ①.

③ Reverse the deck and reconnect the lead card connecting the PCB of the capstan motor and the PCB-HEAD AMP (Refer to Fig. 2-8-3.) Take care not to fit lead card upside down.

④ Connect the lead connector, connected to the FE head, to the point A. (Refer to Fig. 2-8-2.)

⑤ Shift part B of the bare wire lead extended from the head amp slightly downward, lower the stopper, and connect it to the connector on the PCB-A/C-HEAD. (Refer to Fig. 2-8-4)

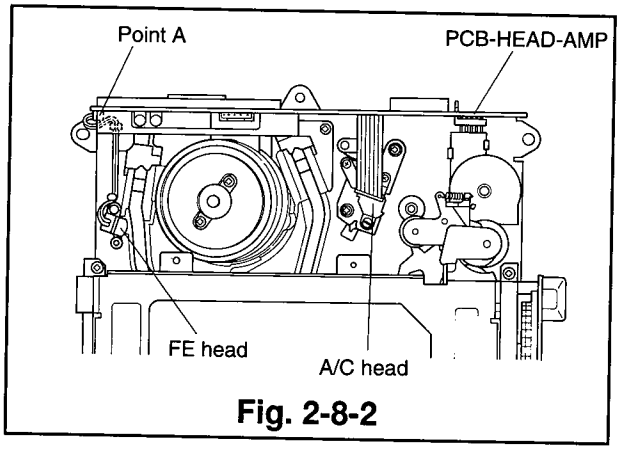


Fig. 2-8-2

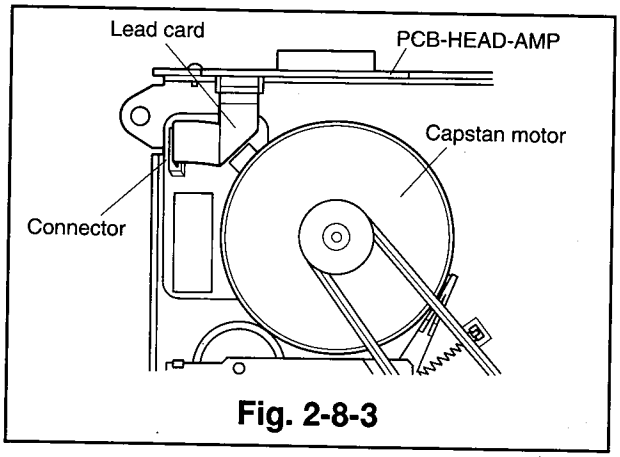


Fig. 2-8-3

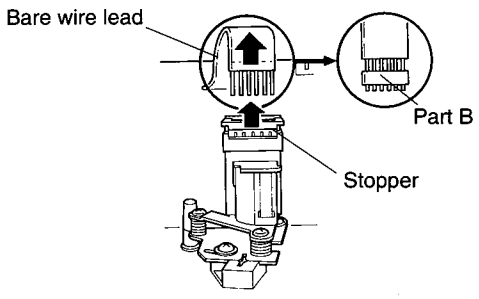


Fig. 2-8-4

2-9 Brush (Refer to the Fig.2-9-1.)

(Removal)

① Reverse the deck and remove the two screws(ⓐ, ⓑ and ⓒ) to remove the brush.

(Installation)

① Attach the brush on the position shown in Fig. 2-9-1 and secure it with the screws ⓐ and ⓑ. Tighten screw ⓒ.

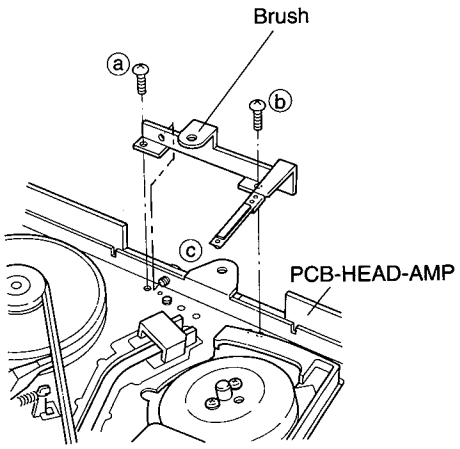


Fig. 2-9-1

2-10 Drum Assembly

Note: When removing and installing the drum assembly, do not touch the tape running surface with your hands.

Note: Take care not to bend the PCB-HEAD-AMP.

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the PCB-HEAD-AMP. (Refer to Para. 2-8 for the removal method.)

③ Unscrew the three screws(ⓐ, ⓑ and ⓒ) on the reverse side of the deck and remove the drum assembly. (Refer to Fig. 2-10-1.)

④ Slowly raise the drum assembly upward, take care not to touch other parts around it. (Do not touch the tape running surface of the drum with your hand.)

Note: During removal, support the drum assembly when it is not secured by fastening screws.

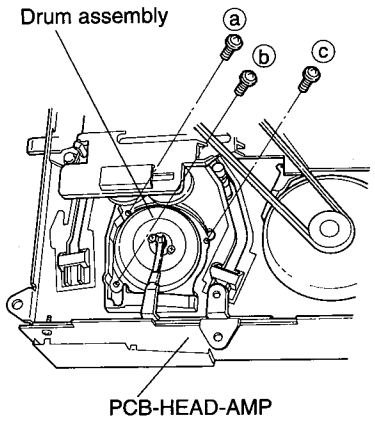


Fig. 2-10-1

(Installation)

① Carefully place the new drum assembly on the main plate of the deck, take care not to touch other parts.

② Holding the drum assembly, reverse the deck and secure the drum assembly with the three screws(ⓐ, ⓑ and ⓒ). (Tighten the screws in the order ⓐ→ⓑ→ⓒ and finally tighten again ⓐ.)(Refer to Fig. 2-10-1.)

③ Install the PCB-HEAD-AMP. (Refer to Para. 2-8 for the installation method.)

④ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

[Another Method]

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Unsolder the soldered pins on the terminal of the drum assembly and the terminal of the rotary transformer.(Refer to Fig. 2-10-2)

③ Unscrew the three screws(ⓐ, ⓑ and ⓒ) on the reverse side of the deck and remove the drum assembly. (Refer to Fig. 2-10-1.)

④ Slightly raise the drum assembly in the opposite direction of the pins. Remove the pins of the drum assembly and of the rotary transformer from the PCB-HEAD-AMP. Slowly remove the drum assembly, take care not to touch other parts around it.

(Installation)

① Carefully place the drum assembly on the main plate, take care not to touch the other parts around it. The pins of the drum assembly and the rotary transformer must enter the holes of the PCB-HEAD-AMP.

② Secure the drum assembly with the three screws(ⓐ, ⓑ and ⓒ) on the reverse side of the deck. (Tighten the screws in the order ⓐ→ⓑ→ⓒ and finally tighten ⓐ again.) (Refer to Fig. 2-10-1.)

③ Solder the pins of the drum assembly and the rotary transformer. (Refer to Fig. 2-10-2.)

④ Install the cassette housing.(Refer to Para. 2-1 for the installation method.)

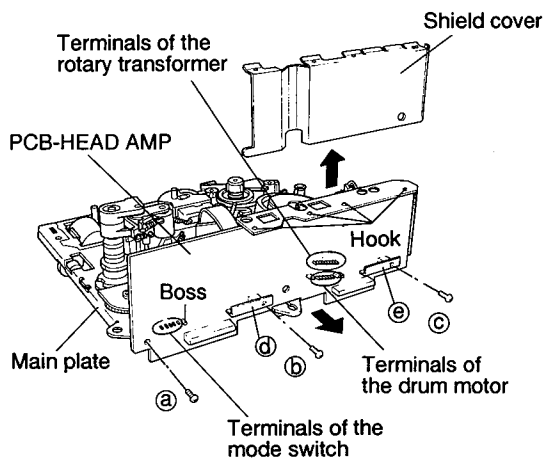


Fig. 2-10-2

2-11 Upper Drum and Drum Motor

Note: When only the upper drum is to be replaced, follow the procedure of Items ①~④ of the removal method and ②~④ of the installation method.

(Removal)

① Remove the drum assembly. (Refer to Para. 2-10 for the removal method.)

② Unsolder the terminals of each head on the upper drum.

③ Remove the screws holding the upper drum shown in Fig. 2-11-1.

④ Remove the upper drum slowly and carefully.

⑤ Remove the screws(ⓐ and ⓑ) shown in Fig. 2-11-1 to remove the rotor case and damper. Remove the screws(ⓒ, ⓓ and ⓔ) to remove the drum motor.

(Installation)

Note:

Handle the upper drum carefully as the video heads are fragile.

① Attach the rotary transformer and the drum motor so that the terminals of both face in the same direction, and secure them with the screws(ⓒ, ⓓ and ⓔ). Secure the rotor case with the screws(ⓐ and ⓑ).

② Attach the upper drum so that the hole on the lower drum shaft is in the position shown in Fig. 2-11-2, take care not to damage the terminals.

- Models with four heads
  The white painted(shaded) area of the upper drum must be 90° from the hole of the lower drum shaft.
- Models with three heads
  The white painted(shaded) area of the upper drum must be 270° from the hole of the lower drum shaft.

③ Secure the upper drum with the two fastening screws. (Tighten the screws alternately.)

④ Solder the terminals of each head.

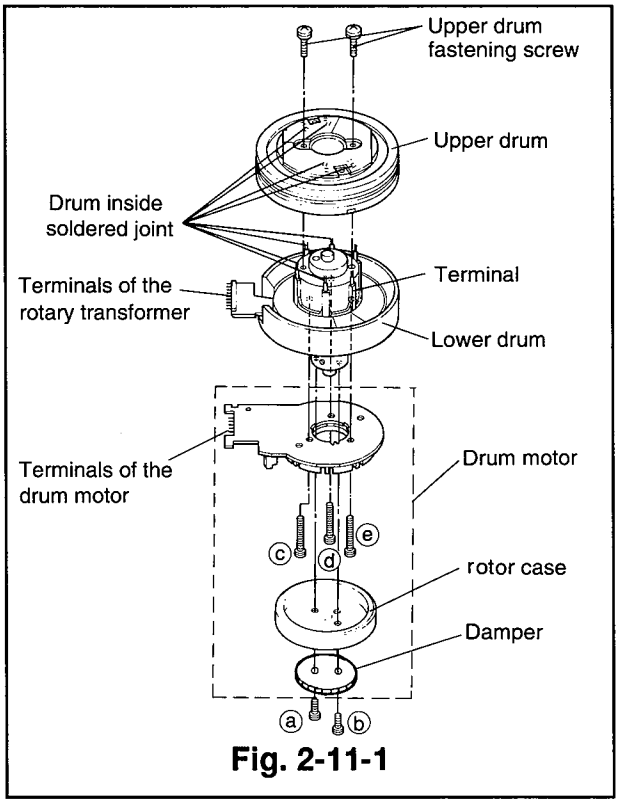


Fig. 2-11-1

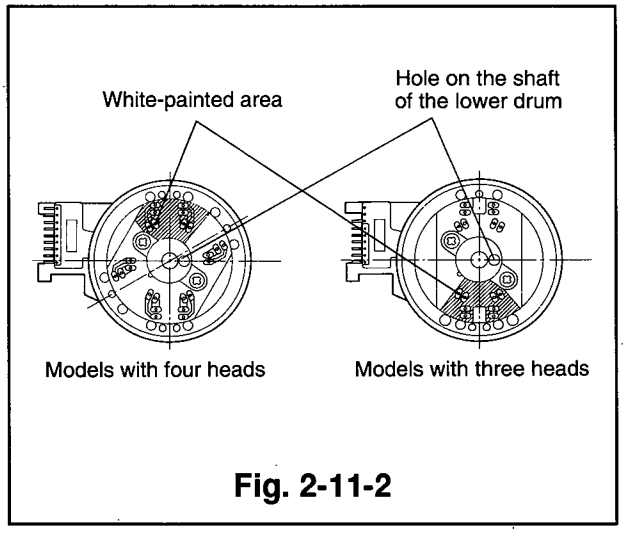


Fig. 2-11-2

2-12 Safety Spring and Safety Lever

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Unhook the safety spring with a tweezers.

③ Turn the safety lever clockwise and remove by raising it upward as shown in Fig. 2-12-2.

(Installation)

① Install the safety lever so that part A aligns with the hole on the main plate, shown in Fig. 2-12-1, and part B with the hole of the safety arm on the reverse side of the deck.

② Fix the safety spring to the shaft of the safety lever and hook it as shown in Fig. 2-12-3.

③ Install the cassette housing.(Refer to Para. 2-1 for the installation method.)

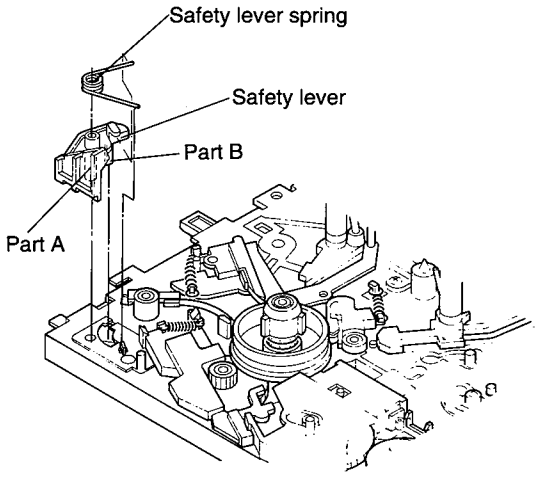


Fig. 2-12-1

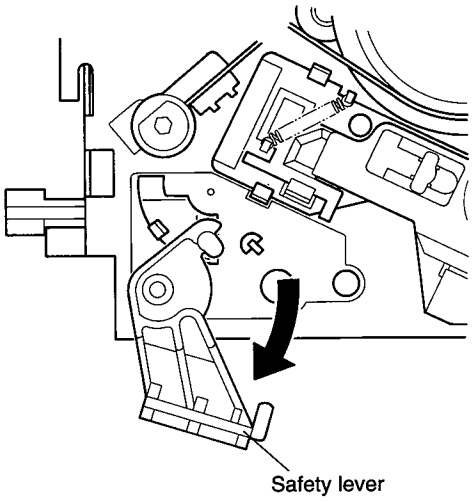


Fig. 2-12-2

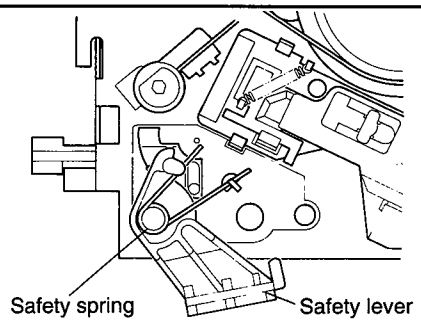


Fig. 2-12-3

2-13 Safety Arm

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the safety spring and the safety lever. (Refer to Para. 2-12 for the removal method.)

③ Unfasten the catch to remove the safety arm. (Refer to Fig. 2-13-1).

(Installation)

① Reverse the deck and fix the safety arm to the shaft of the main plate so that its catch is within the range shown in Fig. 2-13-2.

② Install the safety spring and the safety lever. (Refer to Para. 2-12 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

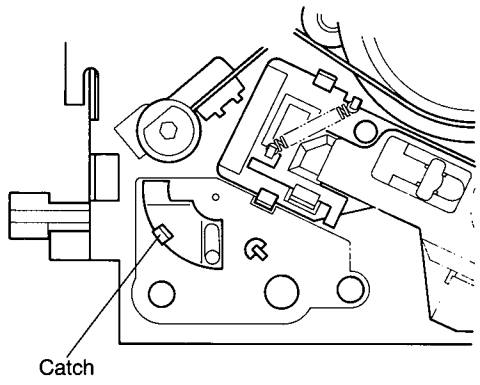


Fig. 2-13-1

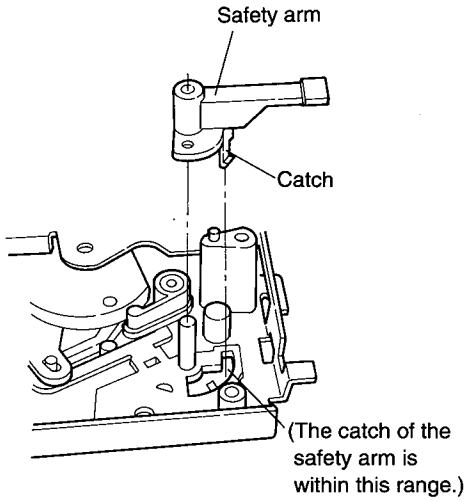


Fig. 2-13-2

2-14 Sub Brake(SP) and Sub Spring(SP)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Detach the sub spring(SP).

③ Reverse the deck and unfasten the catch with a small screw driver, etc., to remove the sub brake(SP) as shown in Fig. 2-14-2.

(Installation)

① Install the sub brake(SP) with care not to score the tension brake belt(without loosening of the tension brake belt).(Refer to Fig. 2-14-1)

② Attach the sub spring(SP).

③ Install the cassette housing.(Refer to Para. 2-1 for the installation method.)

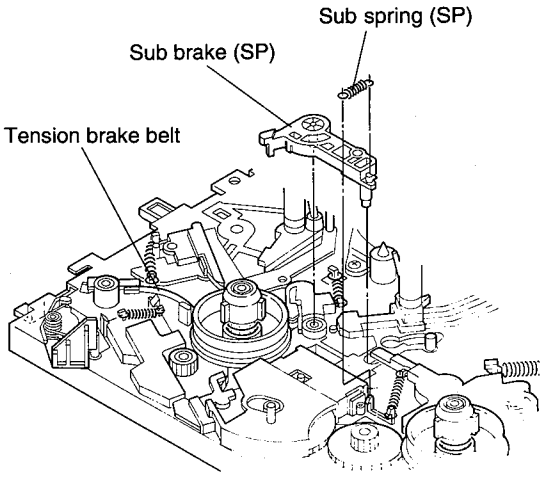


Fig. 2-14-1

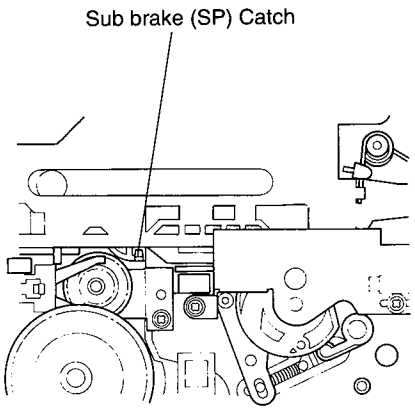


Fig. 2-14-2

2-15 Main Brake(SP) and Main Brake Spring J(SP) (Refer to Fig. 2-15-1.)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Unhook the main brake spring J(SP).

④ Raise the main brake(SP) upward to remove it.

(Installation)

① Install the main brake(SP) on the main plate and attach the main brake spring J(SP).

② Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

③ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

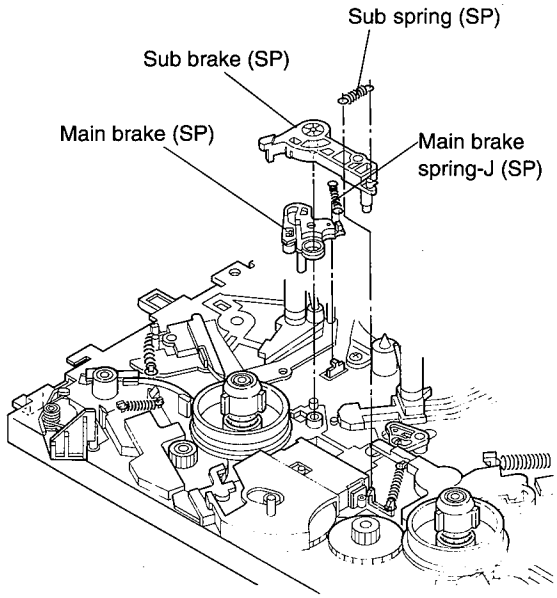


Fig. 2-15-1

2-16 Sub Off Lever, Sub Brake(TU), and Sub Spring(TU)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Unfasten the catch of with a small screw driver, etc., and raise the sub off lever upward to remove it.(Refer to Fig. 2-16-2)

④ Remove the sub spring(TU). (Refer to Fig. 2-16-1.)

⑤ Unfasten the catch with a small screw driver, etc., and raise the sub brake(TU) upward to remove it as shown in Fig. 2-16-2.

(Installation)

① Apply the grease(PG-641)[859D055O30] to the area shown in Fig. 2-16-3.

② Install the sub brake(TU) on the main plate.

③ Install the sub off lever so that the hole A aligns with the boss of the sub brake(TU) as shown in Fig. 2-16-1.

④ Install the sub spring(TU).

⑤ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑥ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

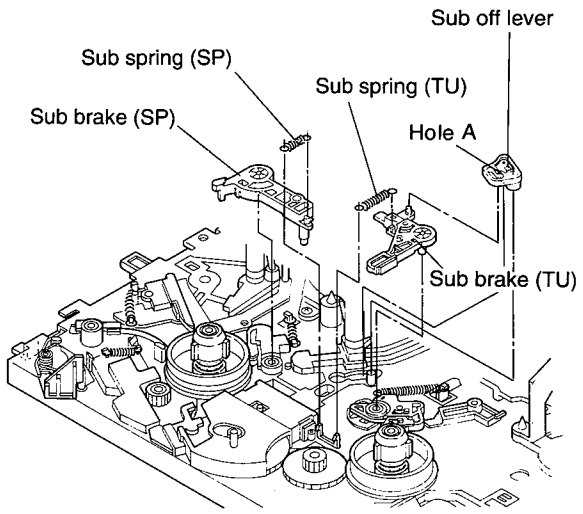


Fig. 2-16-1

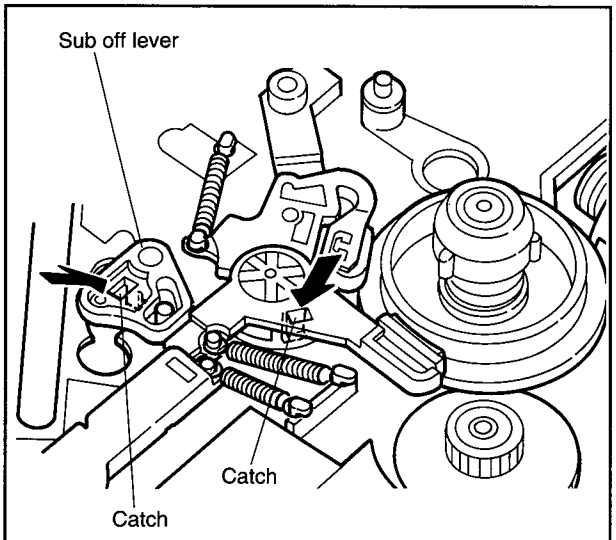


Fig. 2-16-2

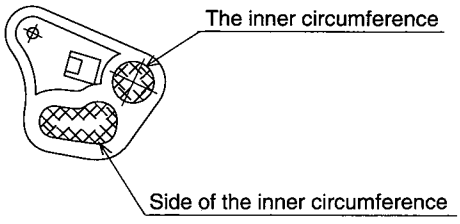


Fig. 2-16-3

2-17 Main Brake(TU) and Main Brake Spring J(TU)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Remove the sub off lever, the sub brake(TU), and the sub spring(TU). (Refer to Para. 2-16 for the removal method.)

④ Remove the main brake spring J(TU) and raise the main brake(TU) upward to remove it. (Refer to Fig. 2-17-1.)

(Installation)

① Install the main brake(TU) on the main plate assembly so that the coupling portion with the main brake release lever is as shown in Fig. 2-17-2.

② Install the main brake spring J(TU).

③ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)

④ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

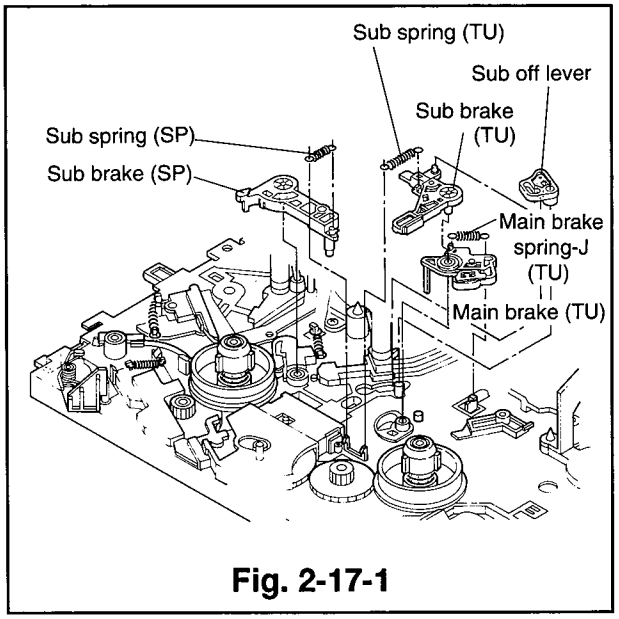


Fig. 2-17-1

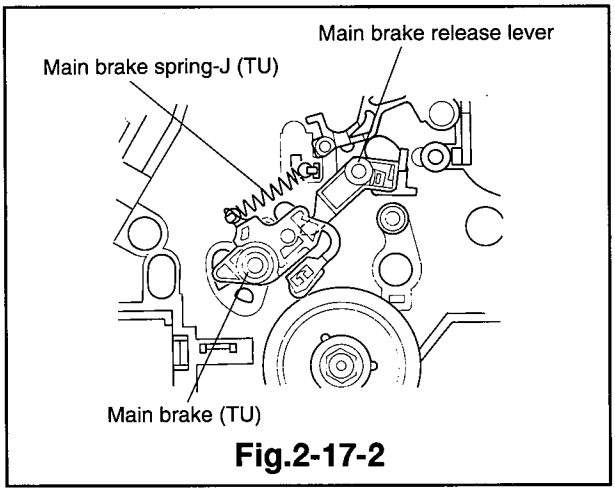


Fig.2-17-2

2-18 ID Swing Lever, Revolution Lever, and Revolution Spring

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Reverse the deck and remove the grip ring attached to the shaft G of the charge assembly.

③ Unfasten the two catches(A, B) to remove the charge assembly.

④ Remove the revolution spring with a tweezers.

⑤ Slide the revolution lever in the direction shown by the arrow and unfasten it from the catch C of the ID swing lever.(Refer to Fig. 2-18-1)

⑥ Detach the charge spring from the ID swing lever.

(Installation)

① Apply the grease(PG-641)[859D055O30] to the areas shown in Fig. 2-18-2 of the new revolution lever and the ID swing lever.

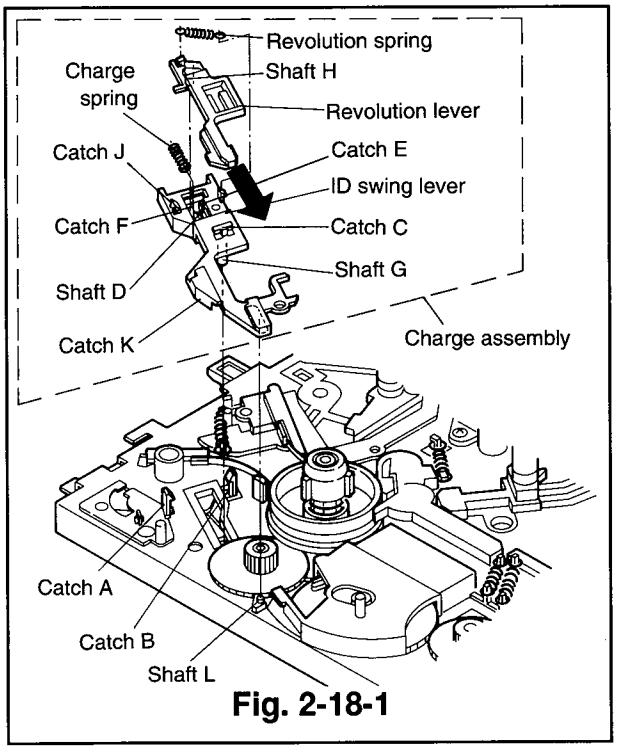


Fig. 2-18-1

② Fix the charge spring to shaft D of the ID swing lever and compress it to hook its ends with the catches E and F.(Refer to Fig. 2-18-1)

Note: The charge spring should be installed in the directions shown below.

(Longitudinal Direction)

The bent tip is attached on the shaft D.

(Traverse Direction)

The wider semicircle is on the left as shown in Fig. 2-18-1.

③ Align the shaft H of the revolution lever with the position shown in Fig. 2-18-1. Insert catch C of the ID swing lever into the hole of the revolution lever, pushing the charge spring with a revolution lever in the direction shown by the arrow. At the same time, hook the ends of the revolution lever with the catches J and K.

④ Attach the revolution spring with a tweezers.

⑤ Install the charge assembly so that shaft G enters into the oval hole of the charge lever on the reverse side of the deck and the groove of the charge assembly fits the shaft as shown in Fig. 2-18-1. Secure the charge assembly with the catch A and B.

⑥ Reverse the deck and fix the new grip ring to the shaft G of the charge assembly.

⑦ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

2-19 Tension Arm, Tension Brake Belt, and Tension Spring

Note: During removal and installation, take care not to change the shape of the tension brake belt.

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for removal method.)

② Supply a voltage(approximately 5V DC plus voltage on the red wire) to the loading motor and slide the tape guide assembly completely to the loaded position,to set it to the loaded position.

③ Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

④ Unfasten the catch of the part A on the tension brake belt and raise the part A to unfasten the tension brake belt from the supply reel disk.(Refer to Fig. 2-19-1)

⑤ Remove the tension spring, unfasten the catch shown in Fig. 2-19-2, and raise the tension arm upward to remove it.

⑥ Reverse the tension arm, unfasten the catch with a tweezers as shown in Fig. 2-19-3 to remove the tension brake belt.

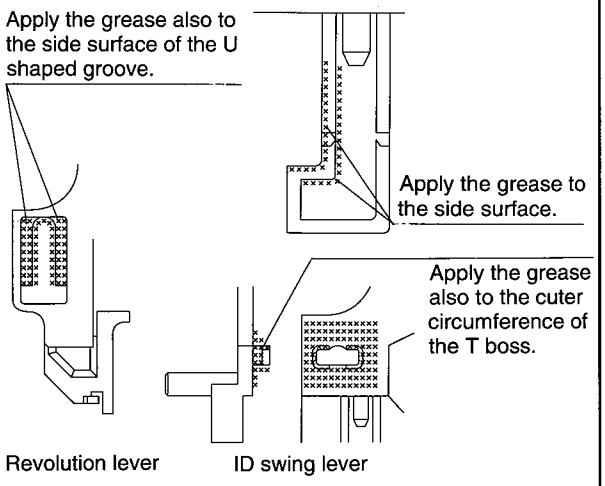


Fig. 2-18-2

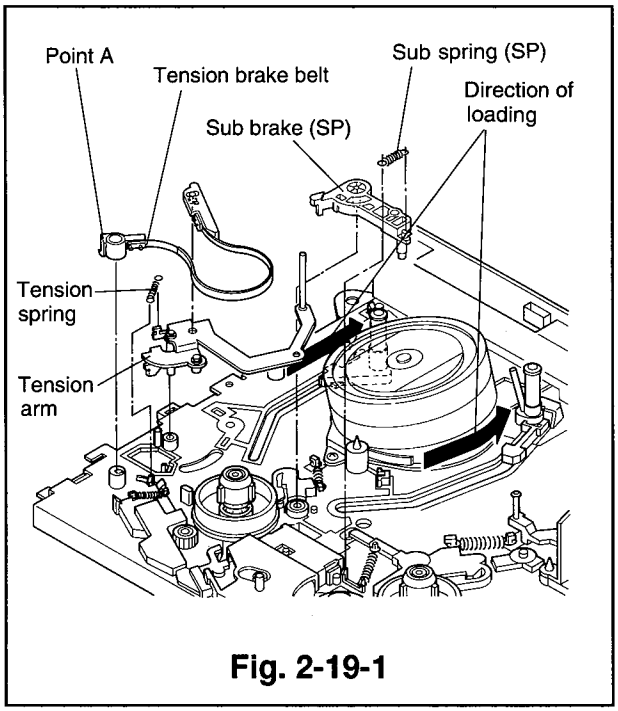


Fig. 2-19-1

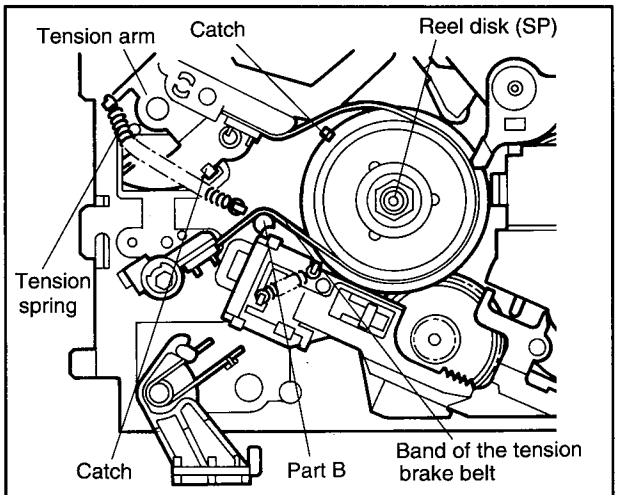


Fig. 2-19-2

(Installation)

① Insert the catch in the position of the tension arm as shown in Fig. 2-19-3 to fasten the tension brake belt on the tension arm. (Take care not to let projection C, next to the catch of the tension brake belt touch the tension arm.)

② Install the tension arm, where the tension brake belt is fastened, on the main plate.

③ Fasten the tension brake belt around the supply reel disk. (The band of the tension brake belt must pass the outside of the catch shown in Fig. 2-19-2 and inside of the part B.)

④ Attach the tension spring.

⑤ Install the sub brake(SP) and sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑥ Supply voltage(approximately 5V), reversing the polarity used in ② of the Removal method, to set the motor to the unloaded position.

⑦ Make sure that the holes (matching mark M) on the body and cogwheel of the mode switch align with each other as shown in Fig. 2-19-4. At the same time confirm that the hole of the gear pinch aligns with the matching marks of the gear joint J and the ▽mark on the mode switch cogwheel,refer to Fig. 2-19-5. This indicates the J deck is in the EJECT mode.

⑧ If the deck is not completely set to the eject mode, turn part D of the pulley worm J by hand to set the eject mode.

Turn in the direction a ····· for loading

Turn in the direction b ····· for unloading (Refer to Fig. 2-19-6)

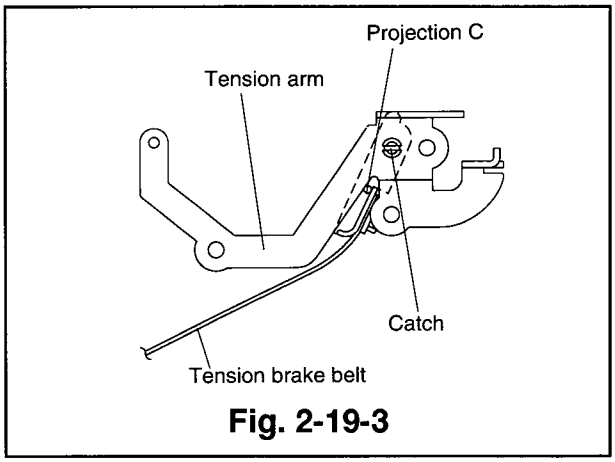


Fig. 2-19-3

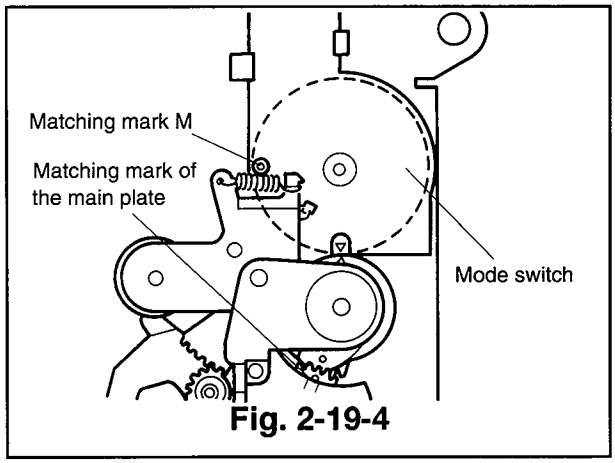


Fig. 2-19-4

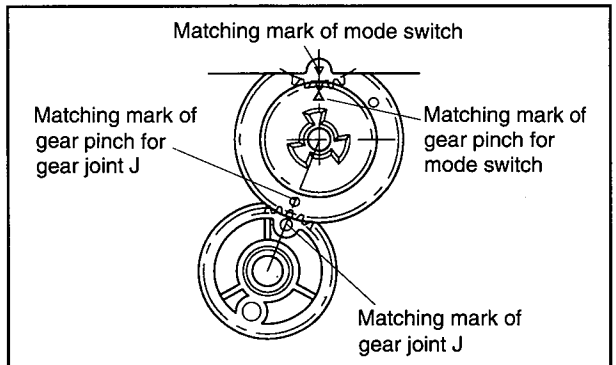


Fig. 2-19-5

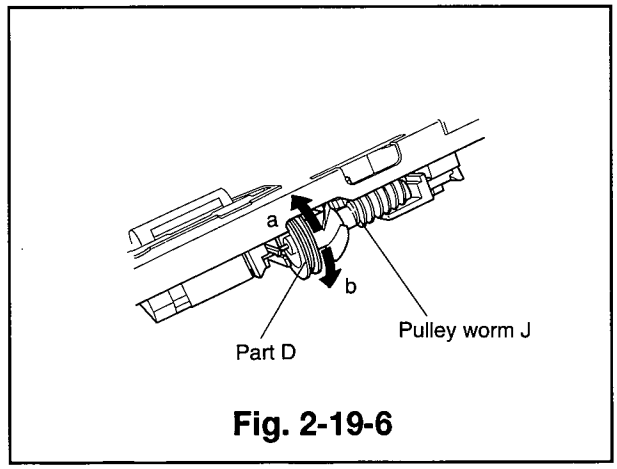


Fig. 2-19-6

2-20 Takeup Reel Disk and Gear R(takeup side)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Remove the sub off lever, the sub brake(TU), and the sub spring(TU). (Refer to Para. 2-16 for the removal method.)

④ Unfasten the catch shown in Fig. 2-20-1 and raise the takeup reel disk upward to remove it from the shaft.

⑤ Raise the gear R(takeup side) upward to remove it from the shaft. (Refer to Fig. 2-20-2.)

(Installation)

① Install the gear R(takeup side) on the shaft. (Refer to Fig. 2-20-2.)

② Install the takeup reel disk on the shaft.(Refer to Fig. 2-20-2)

③ Install the height adjusting jig [master plane](used for F deck: Part No.859C342020) in the specified position. (Insert the jig into hole A, shown in Fig. 2-20-3, so that the jig sets on part B and the end of part C. Take care that the jig does not touch the supply and takeup reel disks.)

④ Place the height adjusting jig [square](used for E deck: Part No.859C341070) on the jig installed in Item ③ as shown in Fig. 2-20-4. Make sure that the height is correct (between A and B).

⑤ Adjust the height of the supply reel disk by varying the number of the washers (Part No.552C017O20) under the disk.

A) If it is high, remove washer(s).

B) If it is low, add washer(s).

⑥ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)

⑦ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑧ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

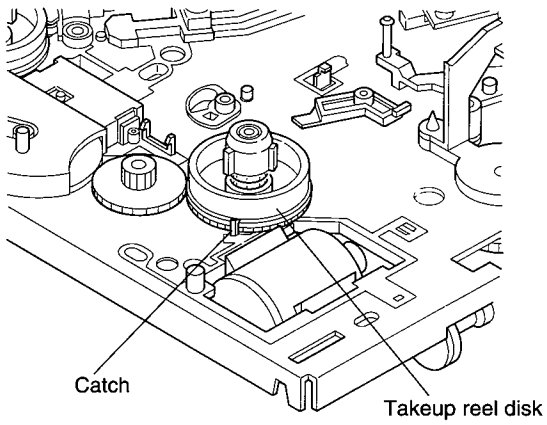


Fig. 2-20-1

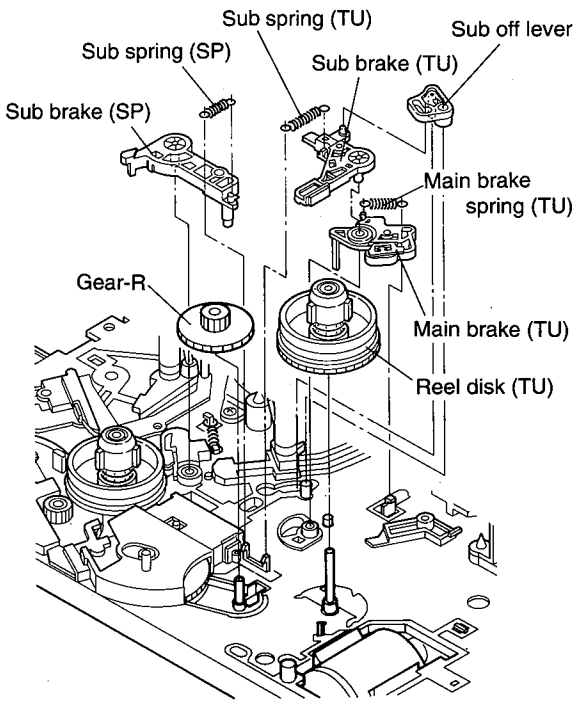


Fig. 2-20-2

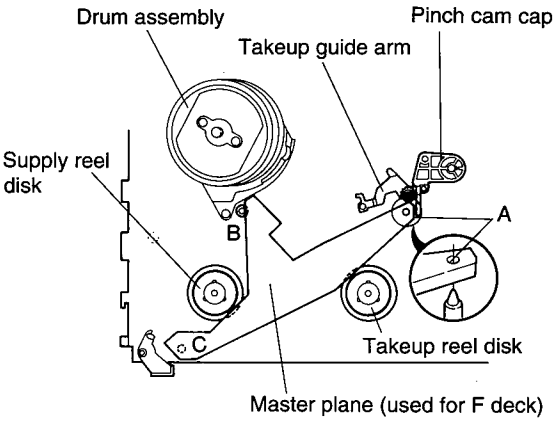


Fig. 2-20-3

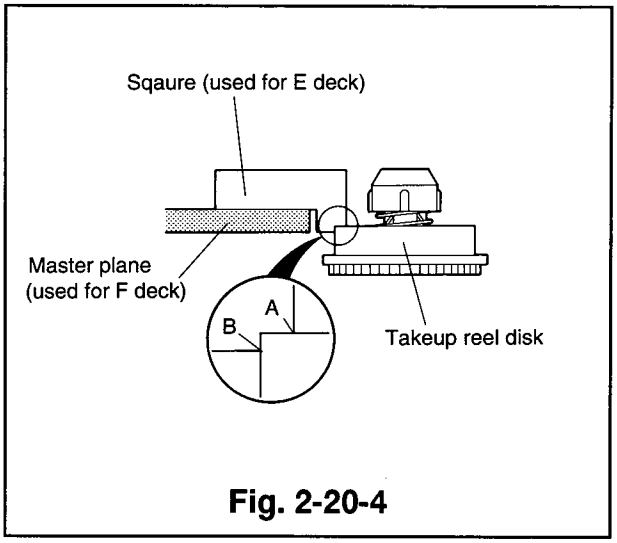


Fig. 2-20-4

2-21 Supply Reel Disk

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.

③ Raise the part B of the tension brake belt upward to unfasten the belt from the supply reel disk as shown in Fig. 2-21-2. (Refer to Para. 2-19 for the removal method.)

④ Unfasten the catch shown in Fig. 2-21-1 and raise the supply reel disk upward to remove it from the shaft.

(Installation)

① Install the supply reel disk on the shaft.

② Install the height adjusting jig [master plane](used for F deck: Part No.859C342020) in the specified position. (Insert the jig into the hole A shown in Fig. 2-20-3 so that the jig sets on part B and the end of part C. Take care that the jig does not touch the supply and takeup reel disks.)

③ Place the height adjusting jig [square](used for E deck: Part No.859C341070) on the jig, previously installed placed in Item ④, as shown in Fig. 2-21-3. Make sure that the height is correct (between A and B).

④ Adjust the height of the supply reel disk by varying the number of the washers(Part No.552C017O20) under the disk.

A) If it is high, remove washer(s).

B) If it is low, add washer(s).

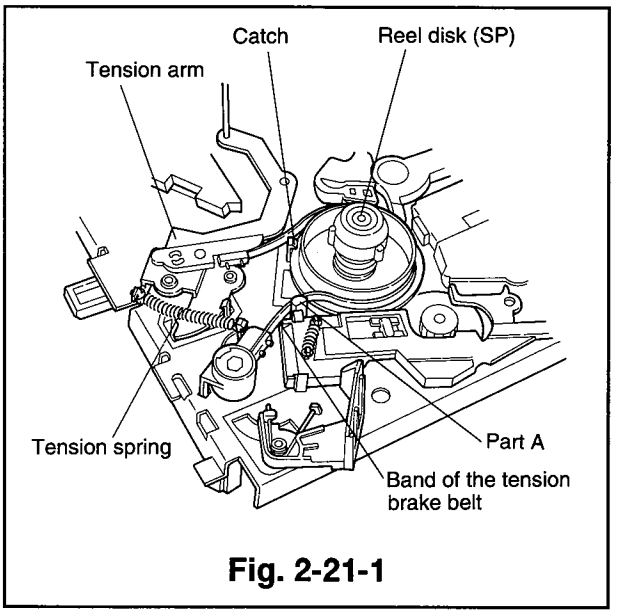


Fig. 2-21-1

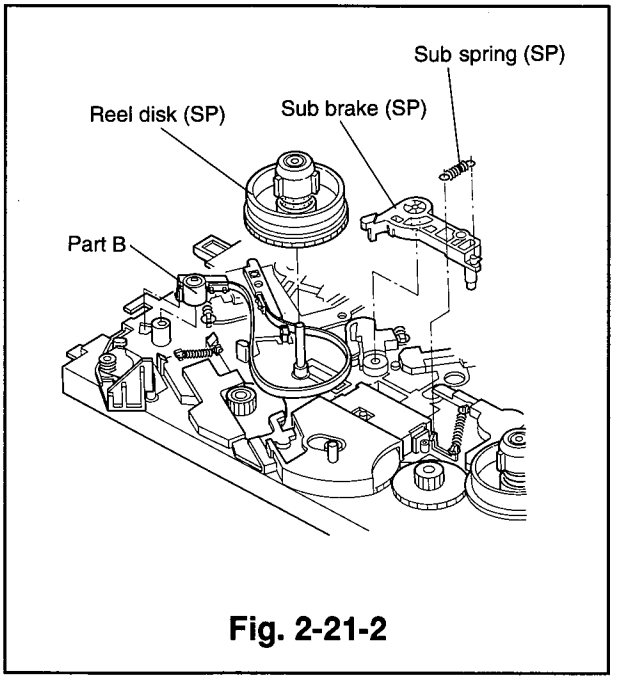


Fig. 2-21-2

⑤ Fasten the tension brake belt round on the supply reel disk, taking care not to score the belt and route part B of the tension brake belt as shown in Fig. 2-21-2. (Refer to Para. 2-19 for the installation method.) (The band of the tension brake belt must pass outside of the catch shown in Fig. 2-21-1 and inside of the part A.)
⑥ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)
⑦ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

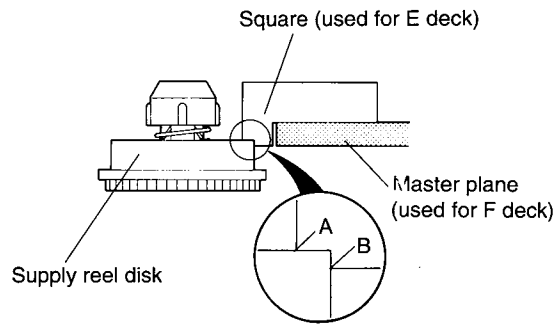


Fig. 2-21-3

2-22 Gear R(supply side) (Refer to Fig. 2-22-1.)

(Removal)
① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)
② Remove the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)
③ Unfasten the tension brake belt from the supply reel disk and remove the supply reel disk. (Refer to Para. 2-21 for the removal method.)
④ Remove the charge assembly. (Refer to item ② of Removal in Para. 2-18 for the removal method.)
⑤ Raise the gear R(SP) upward to remove it from the shaft.

(Installation)
① Install the gear R(SP) on the shaft.
② Install the supply reel disk. (Refer to Para. 2-21 for the installation method.)
③ Install sub brake(SP) and sub spring(SP). (Refer to Para. 2-14 for the installation method.)
④ Install the charge assembly. (Refer to Item ⑤ of Para. 2-18 for the installation method.)
⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

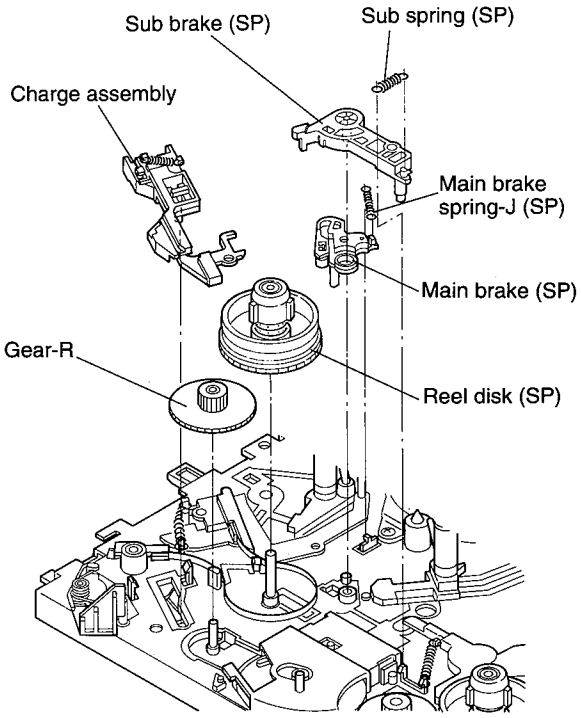


Fig. 2-22-1

2-23 Main Brake Release Lever (Refer to Fig. 2-23-1.)

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the sub brake(SP), and the sub spring(SP). (Refer to Para. 2-14 for the removal method.)

③ Remove the sub off lever, the sub brake(TU), and the sub spring(SP). (Refer to Para. 2-16 for the removal method.)

④ Remove the main brake(TU) and the main brake spring J(TU). (Refer to Para. 2-17 for the removal method.)

⑤ Shift catch A of the main brake release lever, and push catch B at the same time, in the direction shown by each arrow. Unfasten catch B from the main plate to remove the main brake release lever. (Refer to Fig. 2-23-2).

(Installation)

① Install the main brake release lever so that the shaft enters the inside groove shown in Fig. 2-23-3 of the main gear J.

② Install the main brake(TU) and the main brake spring J(TU). (Refer to Para. 2-17 for the installation method.)

③ Install the sub brake(TU), the sub off lever, and the sub spring(TU). (Refer to Para. 2-16 for the installation method.)

④ Install the sub brake(SP) and the sub spring(SP). (Refer to Para. 2-14 for the installation method.)

⑤ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

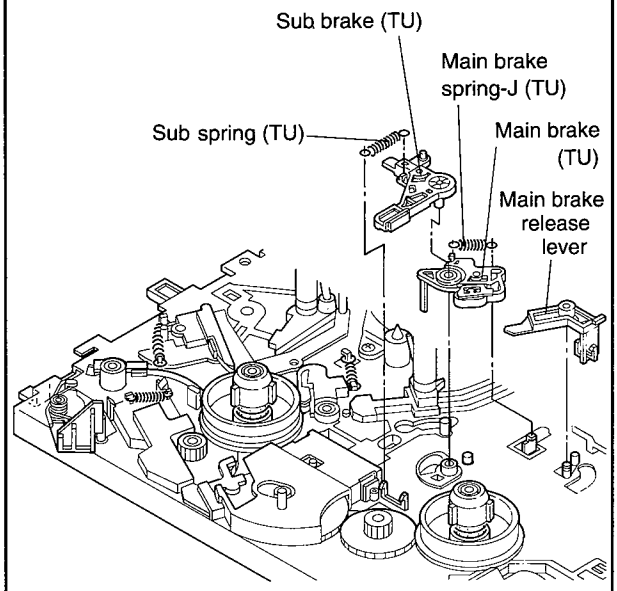


Fig. 2-23-1

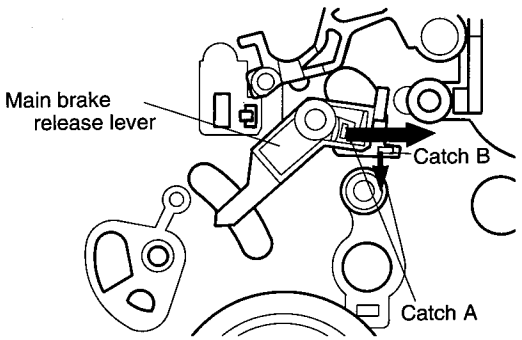


Fig. 2-23-2

Insert the boss of the main brake release lever into the position shown in the figure below of the main gear J.

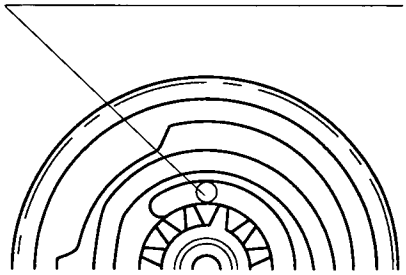


Fig. 2-23-3

2-24 Pinch Cam Cap, Pinch Roller Arm Assembly, Pinch Cam, Takeup Guide Gear, Gear Pinch, Takeup Guide Arm, and Takeup Guide Spring

(Removal)

① Unfasten the catch shown in Fig. 2-24-1 and raise the pinch cam cap upward to remove it.
② Raise the pinch roller arm assembly upward to remove it.
③ Raise the pinch cam and the takeup guide gear upward to remove them from the shaft.
④ Unfasten the two catches holding the mode switch and remove the gear pinch from the shaft, lift the mode switch only high enough to remove the gear pinch. (Take care not to break the pins of the mode switch.)
⑤ Remove the nut at the top of the takeup guide arm with a (5.5mm) box screw driver.
⑥ Raise the takeup guide arm upward to remove it.
⑦ Remove the takeup guide spring.

(Installation)

① Hook one end of the takeup guide spring with the takeup guide arm, fix the takeup guide spring to the shaft.
② Apply grease(PG-641)[859D055O30] around the top of the new takeup guide arm (the surface which touches with the nut). Fix the takeup guide arm to the shaft, and secure it with the nut. (Set the takeup guide arm to the height shown in Fig. 2-24-2 temporarily.)
③ Lift the mode switch, only high enough to install the gear pinch and place the gear pinch under the mode switch. Fix the mode switch to the shaft so that the matching marks of the gear pinch align with those of the gear joint J and the mode switch as shown in Fig. 2-24-3.
④ Install the takeup guide gear so that the first cog of the takeup guide arm aligns with the matching mark on the takeup guide gear as shown in Fig. 2-24-4.
⑤ Apply grease(G)[859D055O50] to the area shown in Fig. 2-24-5 of the new pinch cam.
⑥ Turn the takeup guide arm clockwise while inserting the pinch cam into the gear pinch. Install the pinch cam so that it aligns with the triple catch. (Excessive rotation of the takeup guide arm will keep it from returning, since the takeup guide gear is caught on the pinch roller cam.)
⑦ Apply the grease (PG-641)[859D055O30] to the new pinch cam cap on the area shown in Fig. 2-24-1.
⑧ Install the pinch roller arm assembly and the pinch cam cap.

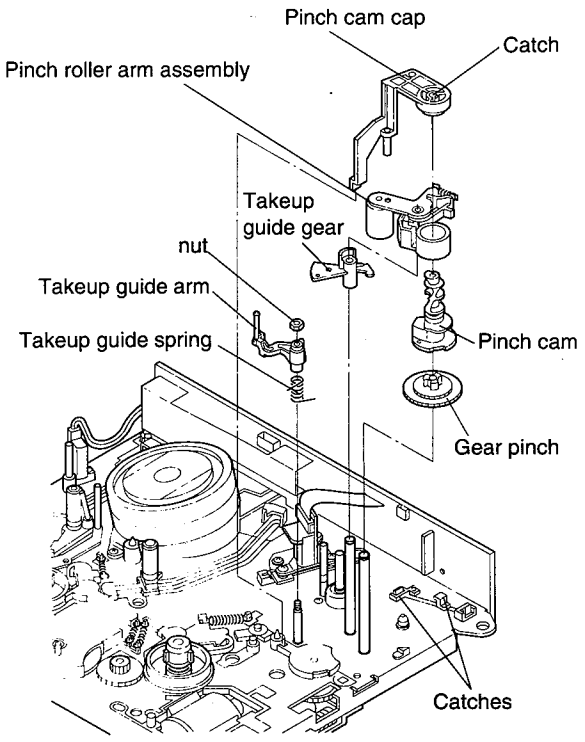


Fig. 2-24-1

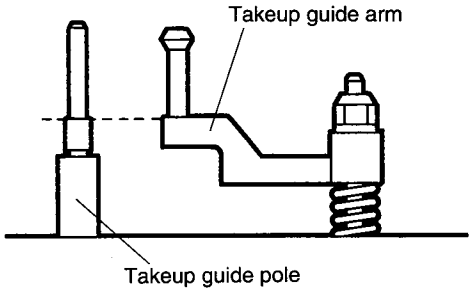


Fig. 2-24-2

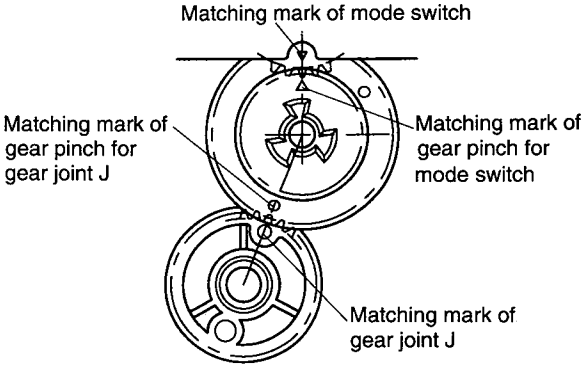


Fig. 2-24-3

[Adjustment of Takeup Guide Arm Height]

Adjust the height of the takeup guide arm according to the following procedure.

① Place the height adjusting jig (for the F deck) in the reference position on the main plate (Refer to Fig. 2-20-3). Tighten the takeup guide arm fastening nut so that the lower flange of the takeup guide arm is level with point B of the height adjusting jig (for the E deck). (Refer to Fig. 2-24-6).

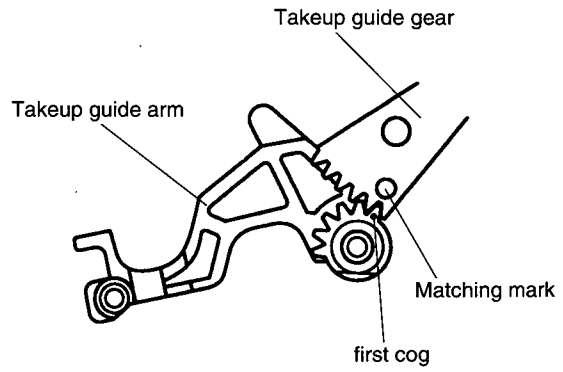


Fig. 2-24-4

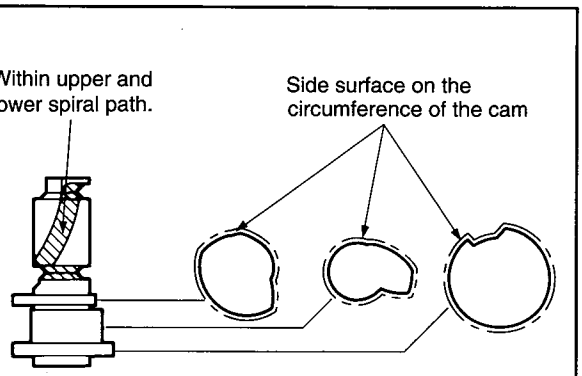


Fig. 2-24-5

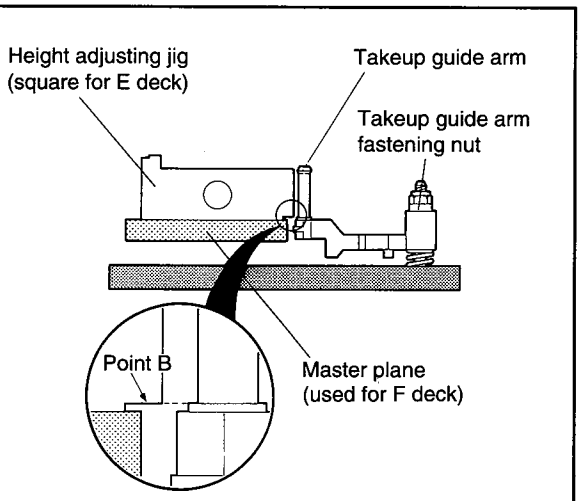


Fig. 2-24-6

2-25 Pinch Roller, Roller Cap, Pinch Spring, and Pinch Cam Spring

Note: During removal and installation, do not expand the pinch spring more than 18mm and the pinch cam spring more than 27mm.

(Removal)

① Pry the pinch roller and the roller cap to remove them as shown in Fig. 2-25-1.

② Remove the pinch spring and the pinch cam spring.

(Installation)

① Install the pinch cam spring and the pinch spring making sure that the pinch arm, the pinch slider, and the pinch lever are composed as shown in Fig. 2-25-2.

② Install the pinch roller so that the side, with the widest aluminium bushing, is on the roller cap side. Push the roller cap inside to secure the pinch roller.(Refer to Fig. 2-25-3)

Note: There are two types of pinch rollers as shown in Fig. 2-25-3. Each should be installed in the direction shown below.

(Type A)

The side on which aluminum is wider is attached the roller cap.

(Type B)

The convex portion is attached on the roller cap.

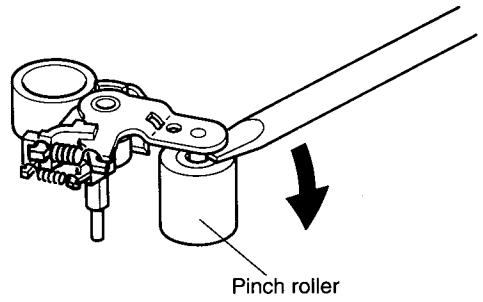


Fig. 2-25-1

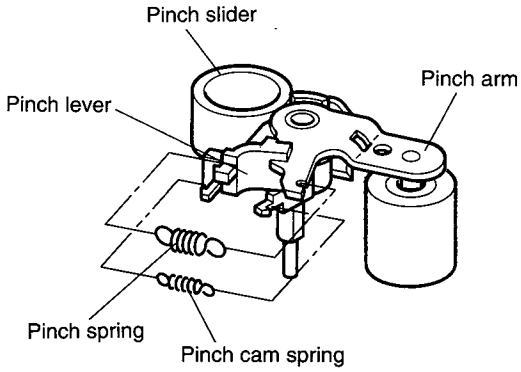


Fig. 2-25-2

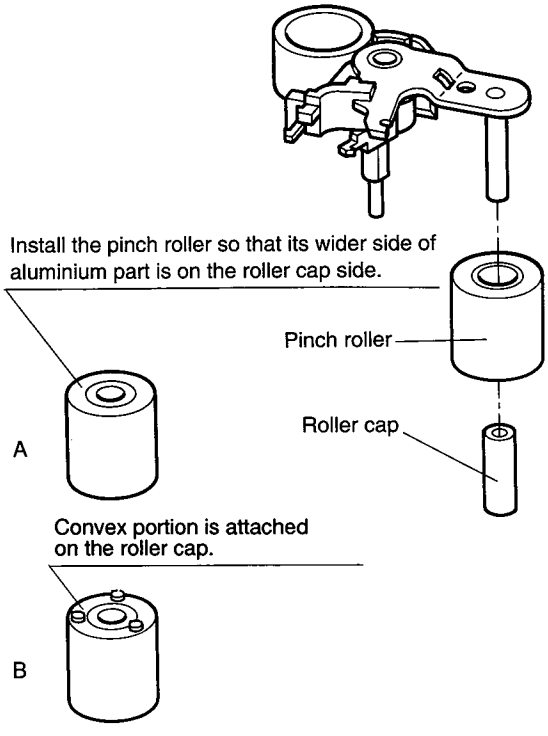


Fig. 2-25-3

2-26 Mode Switch

(Removal)

① Remove the pinch cam cap, the pinch roller arm assembly, the pinch cam, and the takeup guide gear. (Refer to Para. 2-24 for the removal method.)

② Unsolder the five soldered terminals connecting the PCB-HEAD-AMP to the mode switch. (Refer to Fig. 2-26-1).

③ Unfasten two catches holding the mode switch. (Refer to Fig. 2-26-2.)

④ Slowly remove the mode switch, making sure that it is completely unsoldered.

(Installation)

① Insert the five pins and the boss of the mode switch shown in Fig. 2-26-1 into the matching holes of the PCB-HEAD-AMP. Place the mode switch on the main plate so that the matching mark of the gear pinch aligns with that of the mode switch and fasten it with the catches as shown in Fig. 2-26-3. (Also make sure that the matching mark of the gear joint aligns with that of the gear pinch.)

② Install the takeup guide gear, the pinch cam, the pinch roller arm assembly, and the pinch cam cap. (Refer to Para. 2-24 for the installation method.)

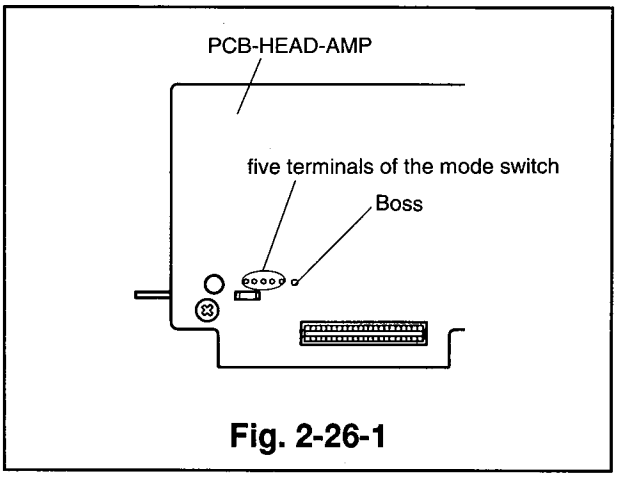


Fig. 2-26-1

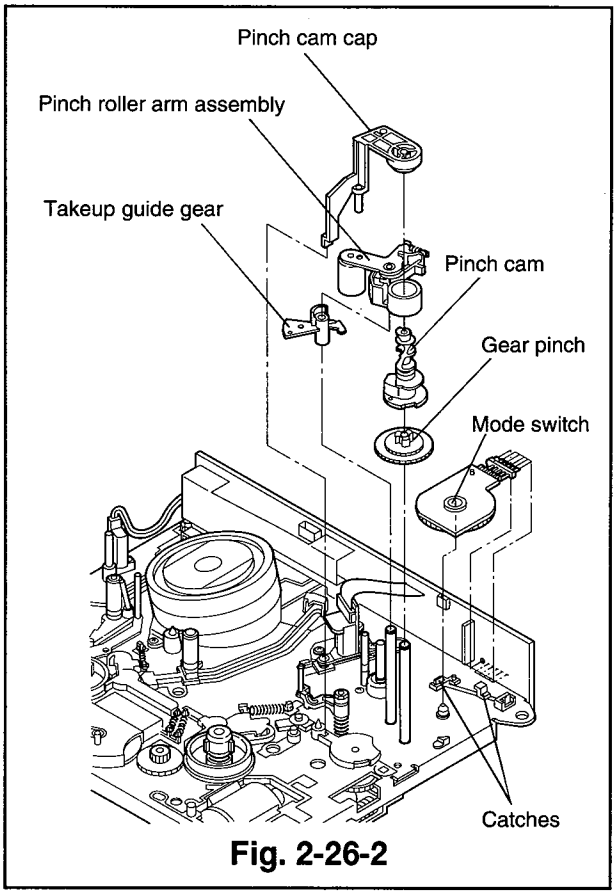


Fig. 2-26-2

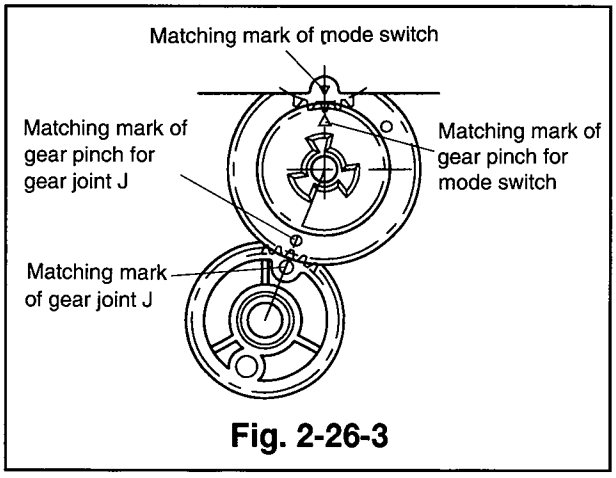


Fig. 2-26-3

2-27 FE Head (Refer to Fig. 2-27-1.)

(Removal)

① Disconnect the lead connector, connected to the FE head.

② Remove the screw(ⓐ) to remove the FE head.

(Installation)

① Secure the FE head with the screw(ⓐ) and connect the lead connector to the FE head. (Route the lead connector, which is fastened with the catch as shown in Fig. 2-27-1, through the hook of the main plate.)

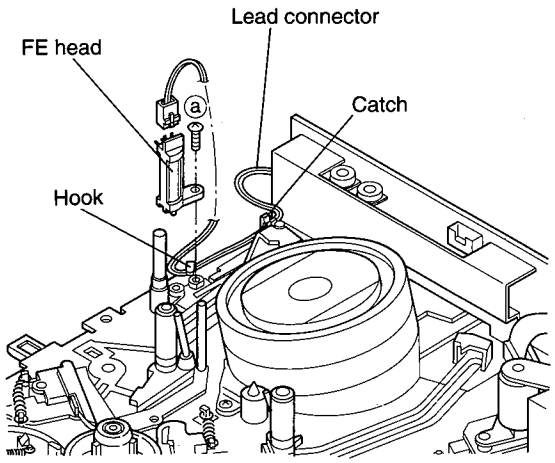


Fig. 2-27-1

2-28 Reel Belt and Belt Pulley

(Removal)

① Unfasten the reel belt from the capstan motor and the belt pulley.

② Release the belt pulley as shown in Fig. 2-28-1 and raise the belt pulley upward to remove it.

(Installation)

Note: When installing the reel belt, make sure it is clean and free of grease.(Clean with dry gauze only)

① Fasten the belt pulley to the shaft.(When fixing the belt pulley to the shaft of the idler assembly, make sure that the three convex parts of the washer fixed to the shaft enter the matching dents.

② Secure the belt pulley with the new cut washer.

③ Install the reel belt on the capstan motor and the belt pulley, taking care that the belt is not twisted.

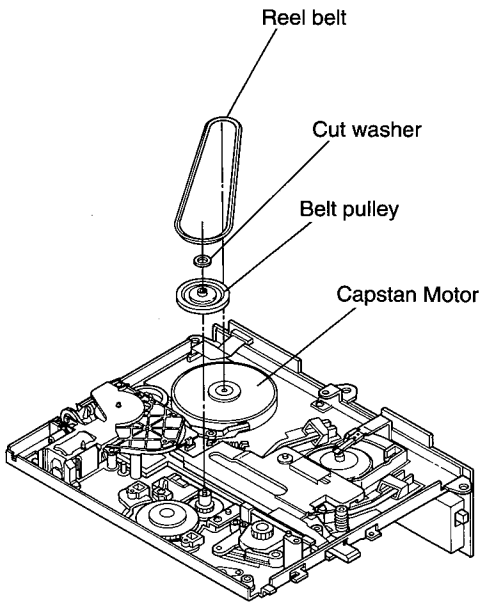


Fig. 2-28-1

2-29 Loading Motor Assembly, Pulley Worm J, Loading Motor Belt, and Gear A

(Removal)

① Unfasten the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the three screws(ⓐ, ⓑ and ⓒ) as shown in Fig. 2-29-2 and unfasten the three catches to remove the loading motor assembly(which holds the motor holder). (Refer to Fig. 2-29-1)

③ Remove the loading motor belt from the motor pulley. (Refer to Fig. 2-29-3.)

④ Unfasten the catches holding the motor holder to remove the loading motor assembly. (Refer to Fig. 2-29-3.)

⑤ Remove the pulley worm J, first the end attached to the part A shown in Fig. 2-29-3 and then the other end.

⑥ Remove the cut washer and unfasten the catch holding Gear A. Remove Gear A.

⑦ Pull the motor pulley to remove it from the loading motor.

⑧ Disconnect the wires from the loading motor.

(Installation)

① Solder the leads to the loading motor.(Red lead wire to the positive terminal and white lead wire to the negative terminal.)

② Install the motor pulley on the loading motor so that the space between the loading motor and the outer edge of the motor pulley is 8.5±0.1mm.(Refer to Fig. 2-29-4)

③ Install the loading motor assembly so that the label on it faces part B, shown in Fig. 2-29-3.

④ Apply grease(G)[859D055O50] to the areas shown in Fig. 2-29-4 of the new pulley worm J. Install the pulley worm J, first the end attached to the part C shown in Fig.2-29-3 and then the other end.

⑤ Fix the gear A to the shaft of the motor holder J and secure it with new cut washers.

⑥ Lift the end attached to the part A shown in Fig. 2-29-3 of the pulley worm J. Fasten the loading motor belt on the pulley worm J and the motor pulley, taking care not to twist the belt.

⑦ Install the loading motor assembly(which holds the motor holder) in the position shown in Fig. 2-29-2 and secure it with the three screws(ⓐ, ⓑ and ⓒ).

⑧ Install the loading motor belt. (Refer to Para. 2-28 for the installation method.)

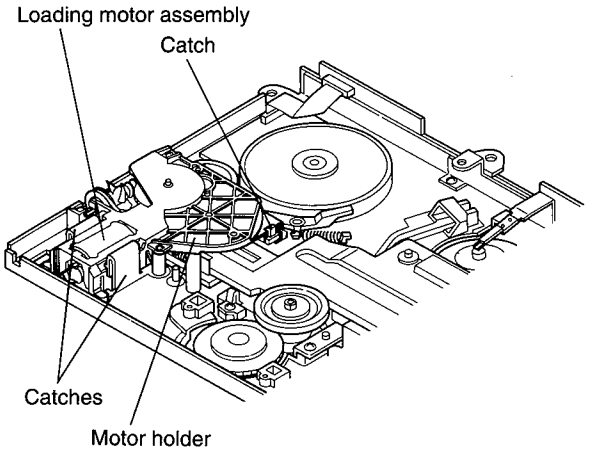


Fig. 2-29-1

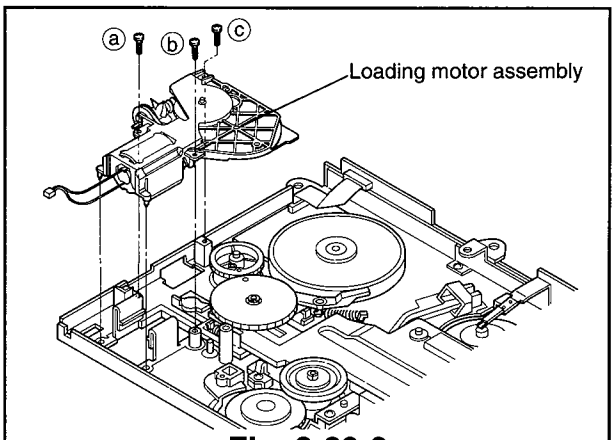


Fig. 2-29-2

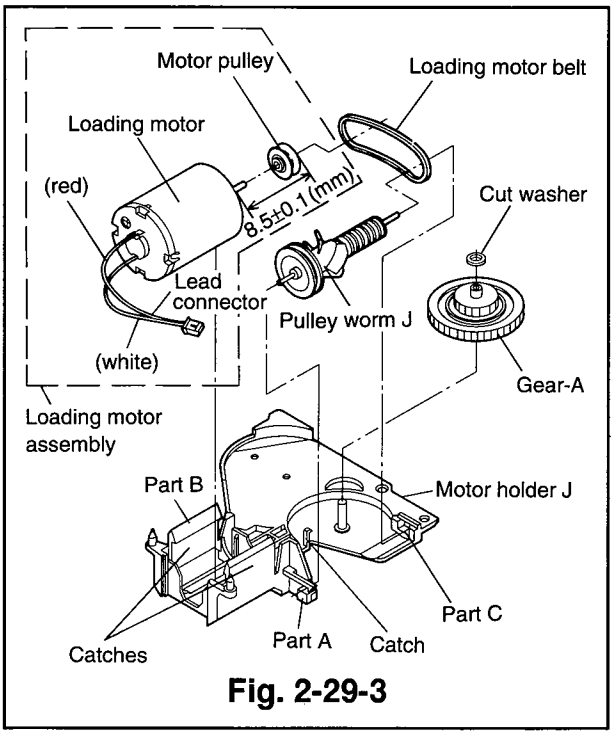


Fig. 2-29-3

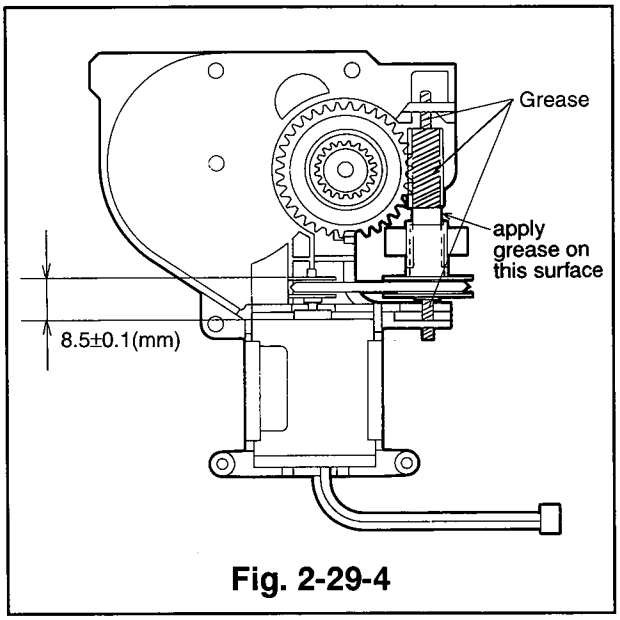


Fig. 2-29-4

2-30 Main Gear J

(Removal)

① Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Remove the cut washer mounted on the main gear J.

④ Raise the main gear J upward to remove it.

(Installation)

① Apply grease(G)[859D055O50] to the outside cogs, the groove of the cam and to the inside small cogs of the new main gear J. (Refer to Fig. 2-30-2.)

② Make sure that the cam plate B is set to the right side, viewed from the bottom side of the deck.(Eject mode)

③ Push the axis of the main brake(TU) in the direction shown by the arrow until the main brake release lever moves freely. Turn the deck the right side up and shift the axis of the main brake release lever in the direction shown by the arrow. Then fix the main gear J to the shaft, with the axis of the main brake release lever held in place. Secure the main plate J with the cut washer. (Refer to Fig. 2-30-3) (Insert the pin of the capstan brake in the outside groove of the main gear J and align the matching marks of gear joint J and the main gear J.)(Refer to Fig. 2-30-4)

④ Install the loading motor assembly(which holds the motor holder) and the reel belt. (Refer to Para. 2-28 for the installation method.)

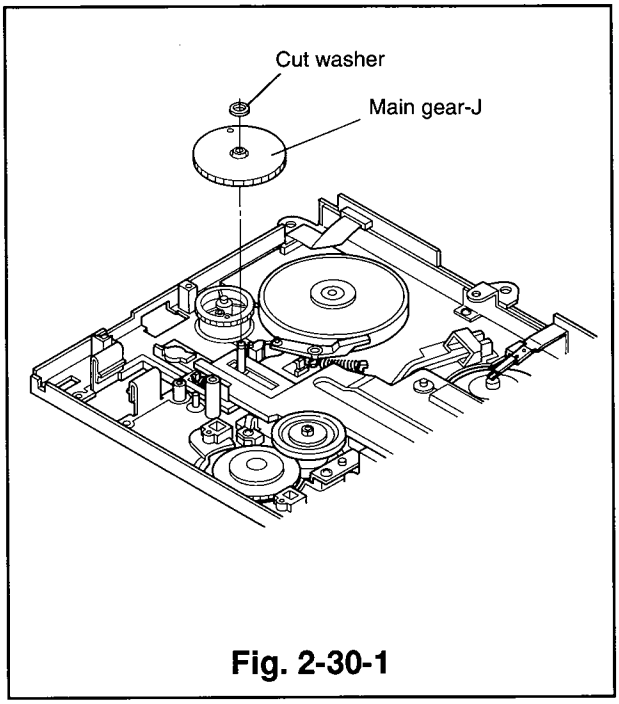


Fig. 2-30-1

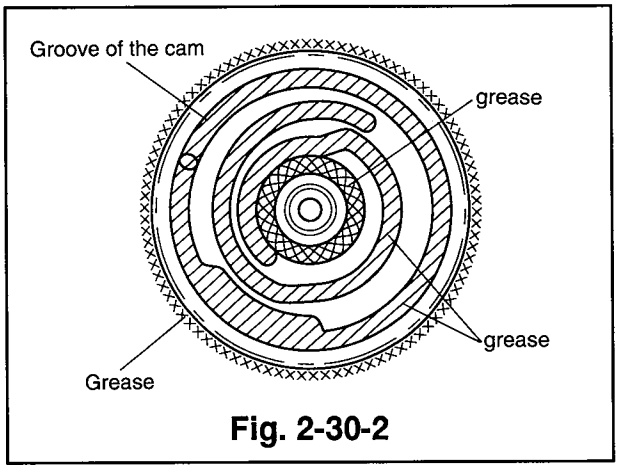


Fig. 2-30-2

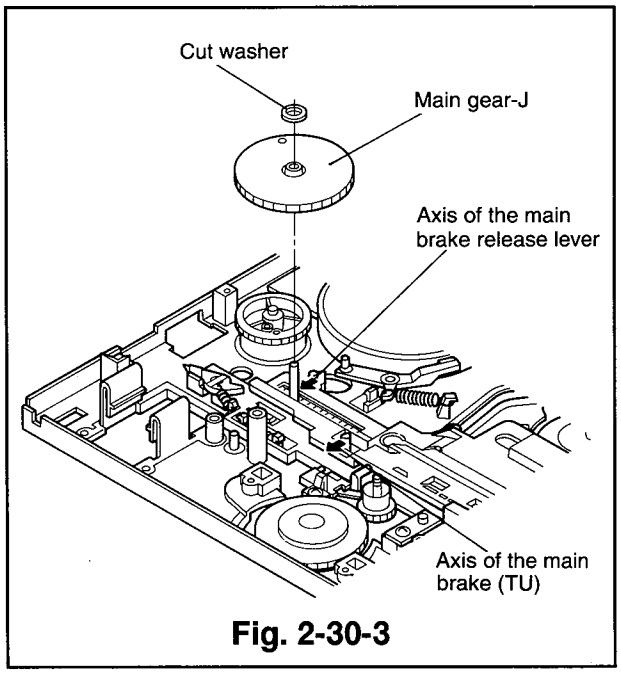


Fig. 2-30-3

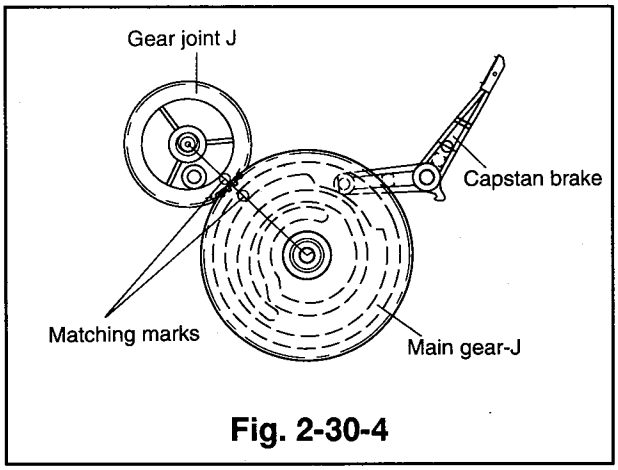


Fig. 2-30-4

2-31 Gear Joint J

(Removal)

① Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Raise the gear joint J upward to remove it. (Refer to Fig. 2-31-1)

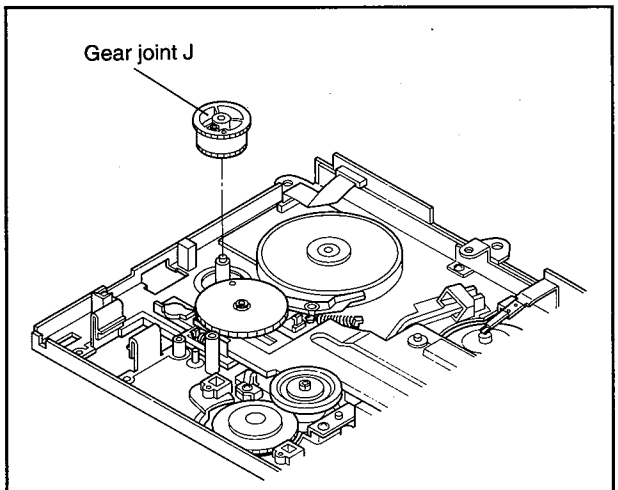


Fig. 2-31-1

(Installation)

① Apply grease(PG-641)[859D055O30] to the new gear joint J on the whole circumference of the small cogwheel as shown in Fig. 2-31-2.

② Fix the gear joint J to the shaft so that the matching mark of the gear joint J aligns with that of the main gear as shown in Fig. 2-30-4.

③ Turn the deck the right side up, make sure that the matching mark of the gear pinch aligns with that of the gear joint J. (When turning the deck, hold the gear joint J, in place.)(Refer to Fig. 2-31-3)

④ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

⑤ Install the reel belt. (Refer to Para. 2-28 for the installation method.)

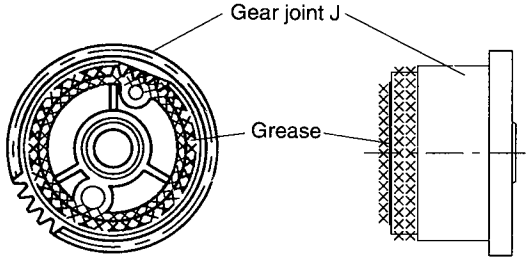


Fig. 2-31-2

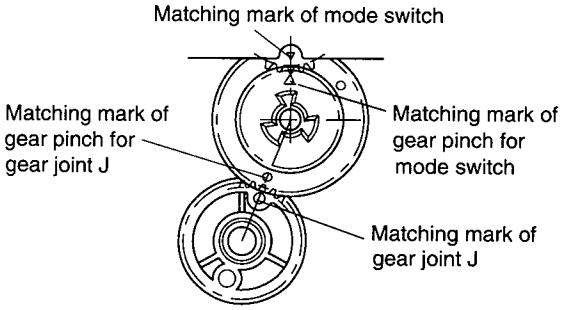


Fig. 2-31-3

2-32 Capstan Brake and Capstan Brake Spring

(Removal)

① Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Remove the main gear J. (Refer to Para. 2-30 for the removal method.)

④ Raise the capstan brake upward to remove it along with the capstan brake spring. (Refer to Fig. 2-32-1.)

(Installation)

① Install the capstan brake and the capstan brake spring.

② Install the main gear J. (Refer to Para. 2-30 for the installation method.)

③ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

④ Fasten the reel belt. (Refer to Para. 2-28 for the installation method.)

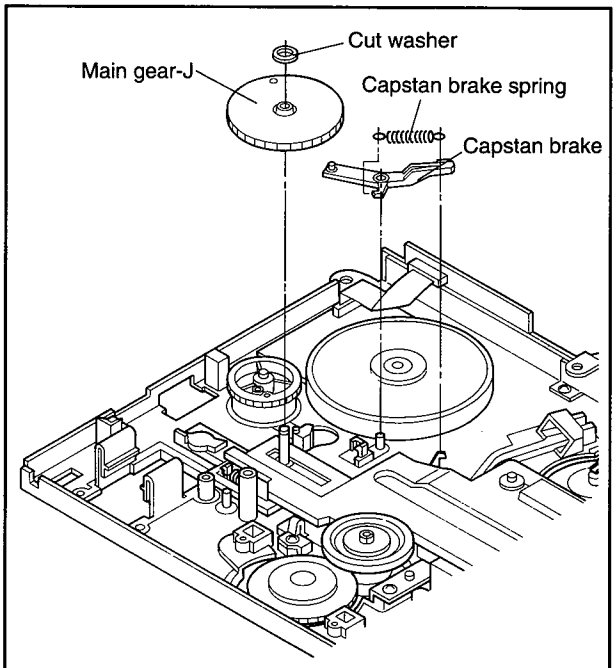


Fig. 2-32-1

2-33 Plate J, Roller B, and Cam Plate B

(Removal)

① Remove the two screws(ⓐ and ⓑ) to remove the plate J.(Fig. 2-33-1)

② Take off the cut washer fixed to the shaft of the loading arm(TU) to remove the roller B.

③ Remove the reel belt. (Refer to Para. 2-28 for the removal method.)

④ Remove the belt pulley. (Refer to Para. 2-28 for the removal method.)

⑤ Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

⑥ Remove the main gear J. (Refer to Para. 2-30 for the removal method.)

⑦ Slide the cam plate B to the left (the direction shown by the arrow) to remove it.

(Installation)

① Apply grease(G)[859D055O50] to the area shown in Fig. 2-33-2 of the new cam plate B.

② Align the loading arms TU and SP so that the matching marks of the cogs align.(Refer to Fig. 2-37-3)

③ Passing part A of the cam plate B under cam spring B insert it into the hole on the side of the main plate, as shown by the continuous line.(Refer to Fig. 2-33-1)

④ While keeping the rear section of cam plate B raised, align the cam plate B and the cam gear R so that the ○ marks align with each other as shown in Fig.2-33-3(Fig. A). Still keeping the rear of cam plate B raised, slide it to the right until the △ marks on cam plate B and cam gear R align, refer Fig. 2-33-3(Fig. B). From this position lower the rear of the cam plate B unto the already aligned loading gears TU and SP, refer ② above. Shift the sub off lever and the main brake TU in the directions shown by the arrows to install them. (Refer to Fig. 2-33-1)

⑤ Fix the roller B to the shaft of the loading arm(TU) and secure it with the new cut washer.

⑥ Install the plate J and secure it with the two screws (ⓐ and ⓑ).

⑦ Install the main gear J. (Refer to Para. 2-30 for the installation method.)

⑧ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)

⑨ Install the belt pulley. (Refer to Para. 2-28 for the installation method.)

⑩ Fasten the reel belt. (Refer to Para. 2-28 for the installation method.)

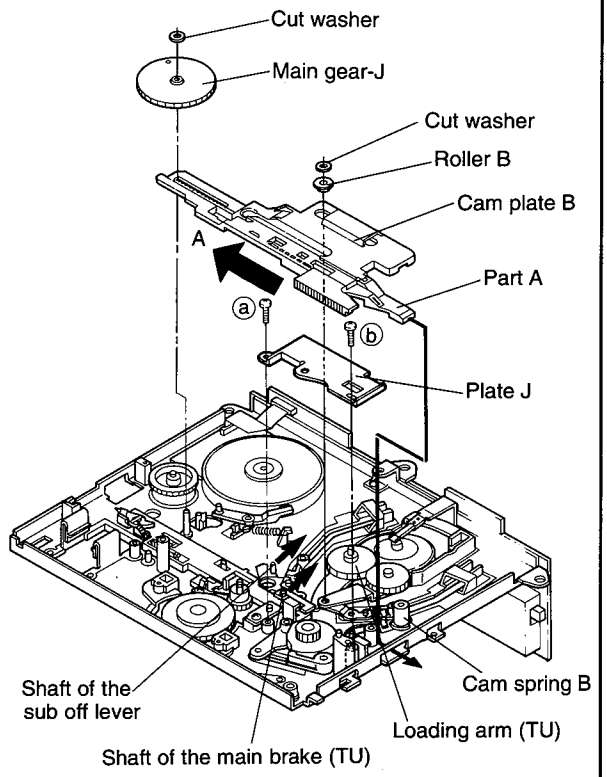


Fig. 2-33-1

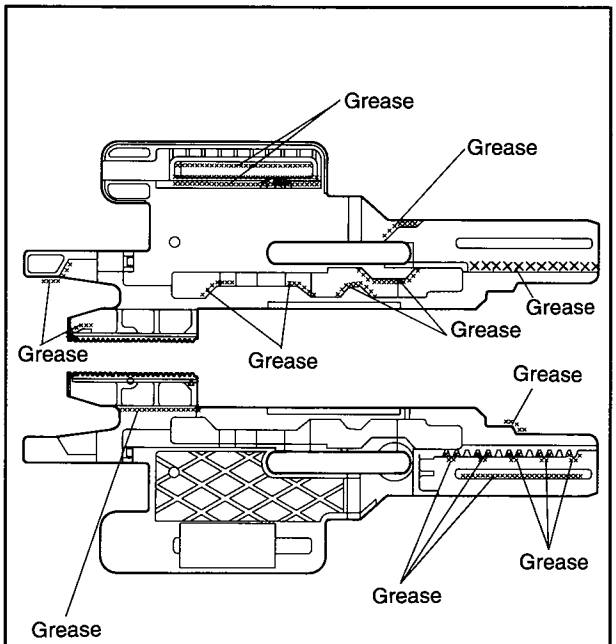


Fig. 2-33-2

2-34 Cam Gear R, Charge Lever, and Tension Off Lever

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the installation method.)
② Turn the deck the right side up and detach the tension spring. (Refer to Fig. 2-34-4.)
③ Remove the charge assembly. (Refer to item ② of Para.2-18 for the removal method.)
④ Remove the reel belt and the pulley belt. (Refer to Para. 2-28 for the removal method.)
⑤ Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)
⑥ Remove the main gear J. (Refer to Para. 2-30 for the removal method.)
⑦ Remove the plate J, the roller B, and the cam plate B. (Refer to Para. 2-33 for the removal method.)
⑧ Raise the cam gear R upward to remove it. (Refer to Fig. 2-34-1.)
⑨ Remove the charge lever. (Refer to Fig. 2-34-1.)
⑩ Remove the tension off lever. (Refer to Fig. 2-34-1.)

(Installation)

① Let part A pass through part B shown in Fig. 2-34-1 to install the tension off lever.
② Fix the charge lever to the shaft.
③ Apply grease(PG-641)[859D055O30] to the area shown in Fig. 2-34-2 of the new cam gear R. (The groove and the flank of the outside circumference.)
④ Insert the cam gear R so that ○ mark is on the upside, with the charge lever set fully to the right end. Slowly turn the charge lever in the direction shown by the arrow until it enters the groove in the cam gear R.(Refer to Fig. 2-34-3)
⑤ Install the cam plate B, the roller B, and the plate J. (Refer to Para. 2-33 for the installation method.)
⑥ Install the main gear J. (Refer to Para. 2-30 for the installation method.)
⑦ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)
⑧ Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)
⑨ Hook the tension spring in the position shown in Fig. 2-34-4.
⑩ Install the charge assembly. (Refer to Item ⑤ of Para. 2-18 for the installation method.)
⑪ Install the cassette housing. (Refer to Para. 2-1 about the installation method.)

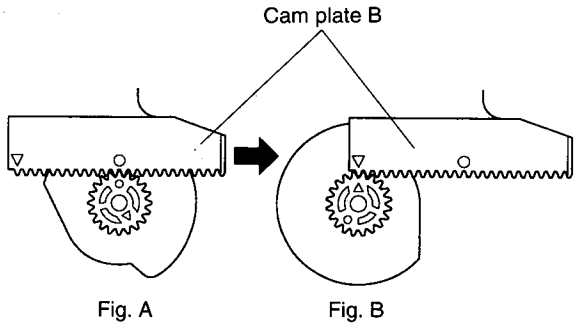


Fig. 2-33-3

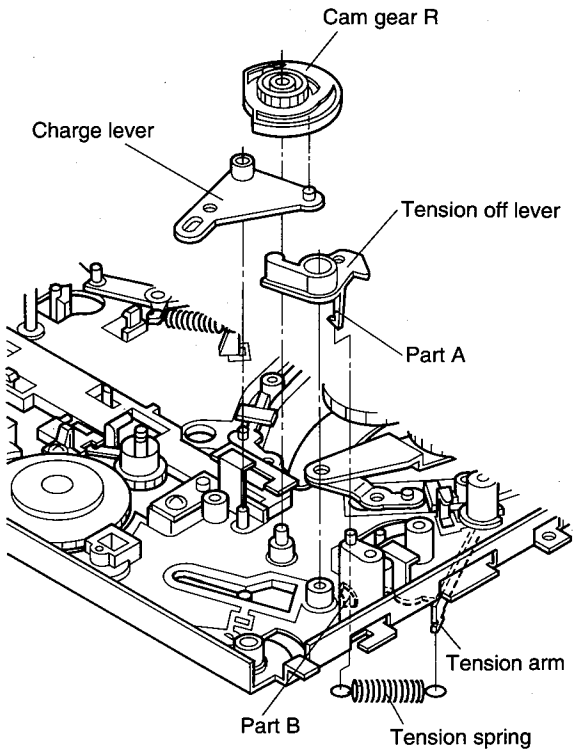


Fig. 2-34-1

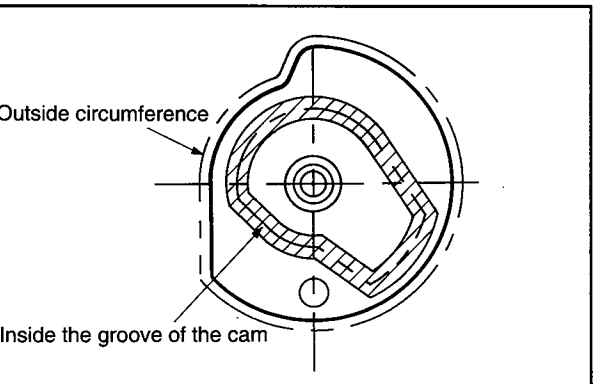


Fig. 2-34-2

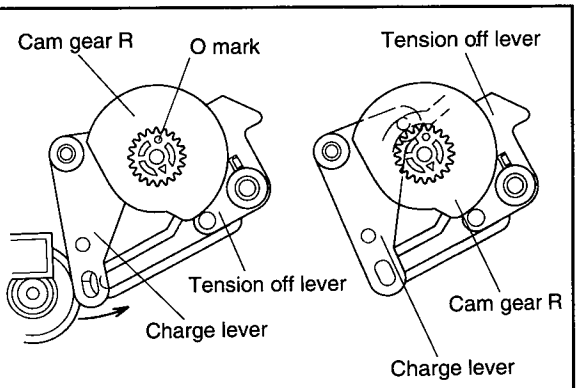


Fig. 2-34-3

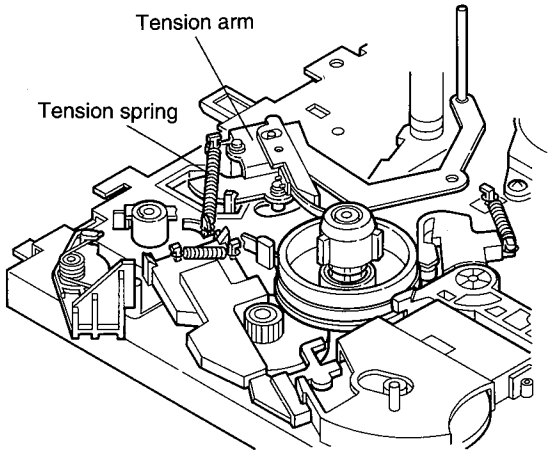


Fig. 2-34-4

2-35 Reel Idler Assembly

(Removal)

① Remove the reel belt and the belt pulley. (Refer to Para. 2-28 for the removal method.)

② Remove the two screws(ⓐ and ⓑ) holding the reel idler assembly.

③ Unfasten the two catches shown in Fig. 2-35-2 and push the reel idler assembly to remove it, with the deck right side up.

(Installation)

① Insert the part B of the reel idler assembly under the plate cam B as shown in Fig. 2-35-1 and insure projection A enters the hole on the main plate. Position the reel idler assembly so that its screw holes are aligned and secure it with the two screws(ⓐ and ⓑ). (Fig. 2-35-3 shows its appearance, viewing from the top.)

② Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)

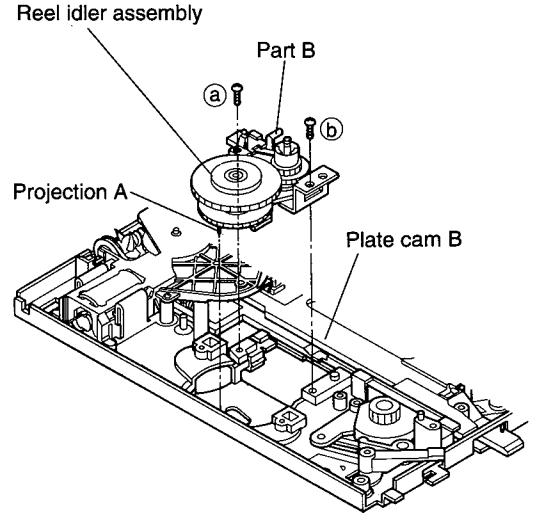


Fig. 2-35-1

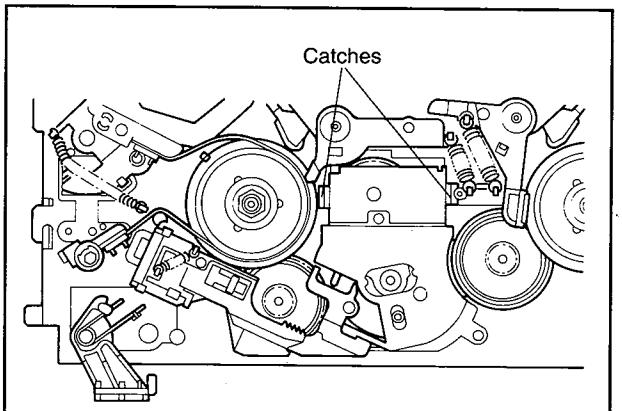


Fig. 2-35-2

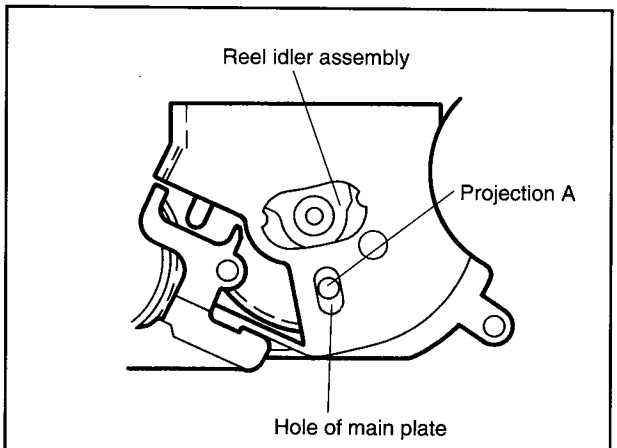


Fig. 2-35-3

2-36 Cam Plate C and Cam Spring C

(Removal)

① Remove the reel belt and the belt pulley. (Refer to Para. 2-28 for the removal method.)

② Remove the reel idler assembly. (Refer to Para. 2-35 for the removal method.)

③ Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

④ Remove the main gear-J. (Refer to Para. 2-30 for the removal method.)

⑤ Remove the plate-J, the roller-B, and the cam plate-B. (Refer to Para. 2-33 for the removal method.)

⑥ Remove the cam spring-C. (Refer to Fig. 2-36-1.)

⑦ Slide the cam plate-C to the left end.

⑧ Unfasten the catch and raise the cam plate-C to remove it. (refer to Fig. 2-36-1.)

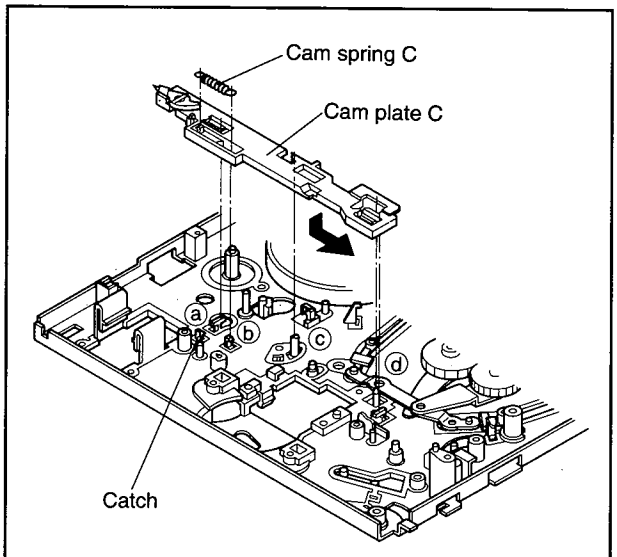


Fig. 2-36-1

(Installation)

① Apply grease(PG-641)[859D055O30] to the area shown in Fig. 2-36-2 of the new cam plate-C.

② Position the cam plate-C so that the four points(ⓐ, ⓑ, ⓒ and ⓓ) shown in Fig. 2-36-1 enter into the matching holes and slide it to the right end.

③ Install the cam spring-C.

④ Install the cam plate-B, the roller-B, and the plate-J. (Refer to Para. 2-33 for the installation method.)

⑤ Install the main gear-J. (Refer to Para. 2-30 for the installation method.)

⑥ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-35 for the installation method.)

⑦ Install the reel idler assembly. (Refer to Para. 2-35 for the installation method.)

⑧ Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)

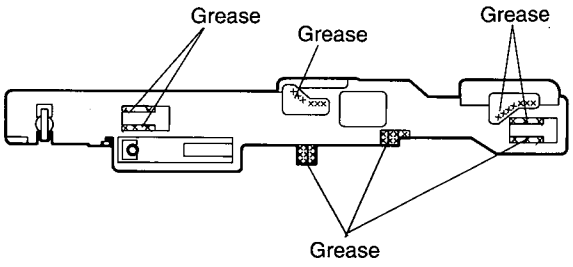


Fig. 2-36-2

2-37 Loading Arm(SP, TU)

(Removal)

① Remove the reel belt and the belt pulley. (Refer to Para. 2-28 for the removal method.)

② Remove the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the removal method.)

③ Remove the main gear-J. (Refer to Para. 2-30 for the removal method.)

④ Remove the plate-J, the roller-B, and the cam plate-B. (Refer to Para. 2-33 for the removal method.)

⑤ Raise the loading arms upward, first SP and then TU, to remove them.(Refer to Fig. 2-37-1)

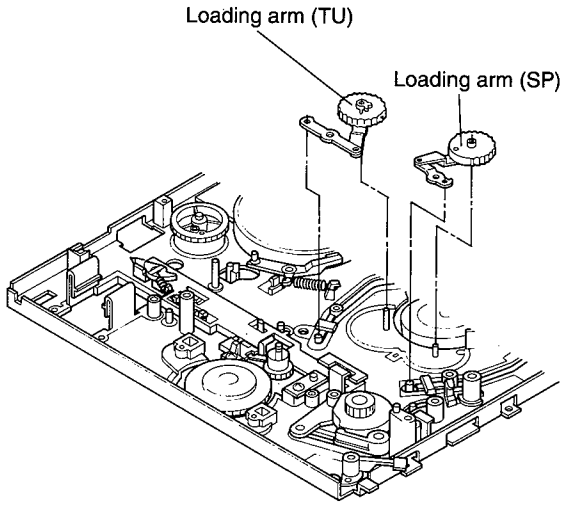


Fig. 2-37-1

(Installation)

① Move the takeup and supply tape guides to the unloaded position. If the supply tape guide is in the loaded position it will be necessary to shift the tension arm in the direction of the arrow in Fig. 2-37-2 at the same time moving the supply tape guide to the unloading position.

② Place the new loading arm(TU) in the position shown in Fig. 2-37-1, then place the loading arm(SP) in the position shown in Fig. 2-37-1 at the same time aligning the marks on the cogs, refer Fig. 2-37-3(shaded area).

③ Apply grease(G)[859D055O50] to the area, which touches the cogwheel of the loading arm(TU) when the loading arms(SP and TU) are shifted fully to the loading direction, and grease(G)[859D055O50] to the gear portion which gears with the plate cam B. (Refer to Fig.2-37-4.)

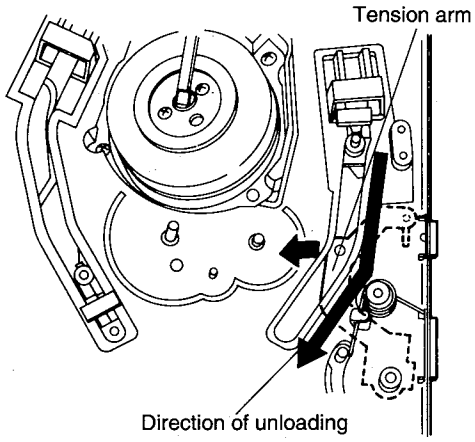


Fig. 2-37-2

④ Install the cam plate-B, the roller-B, and the plate-J. (Refer to Para. 2-33 for the installation method.)
⑤ Install the main gear-J.(Refer to Para. 2-30 for the installation method)
⑥ Install the loading motor assembly(which holds the motor holder). (Refer to Para. 2-29 for the installation method.)
⑦ Install the belt pulley and the reel belt. (Refer to Para. 2-28 for the installation method.)

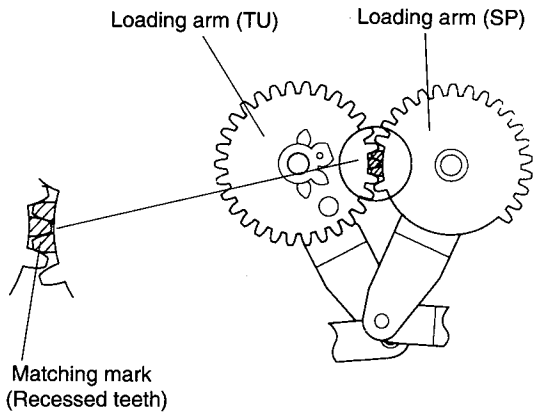


Fig. 2-37-3

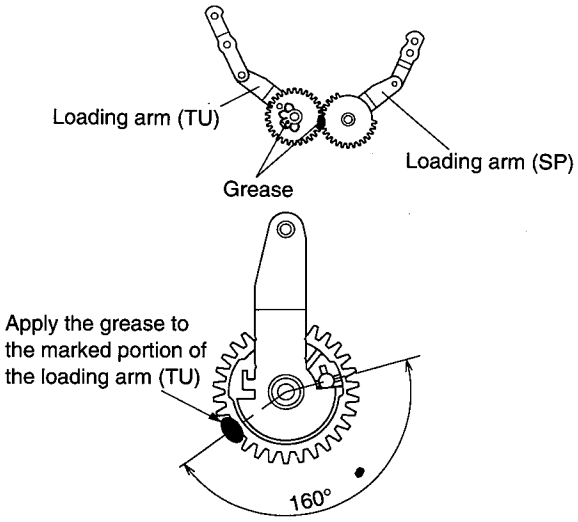


Fig. 2-37-4

2-38 Capstan Motor and Lead Card

Note: During removal and installation of the capstan motor, take care not to touch or score the tape running surface, and insure there is no grease on the outside of the rotor's rim.

(Removal)

① Unfasten the reel belt.
② Disconnect the lead card, connected to the PCB of the capstan motor and the PCB-HEAD-AMP. (Refer to Fig. 2-38-1.)
③ Turn the deck the right side up, remove the three screws shown in Fig. 2-38-2 to remove the capstan motor.

Note: During removal, support the capstan motor assembly when it is not secured by its fastening screws. Take care not to touch other parts.

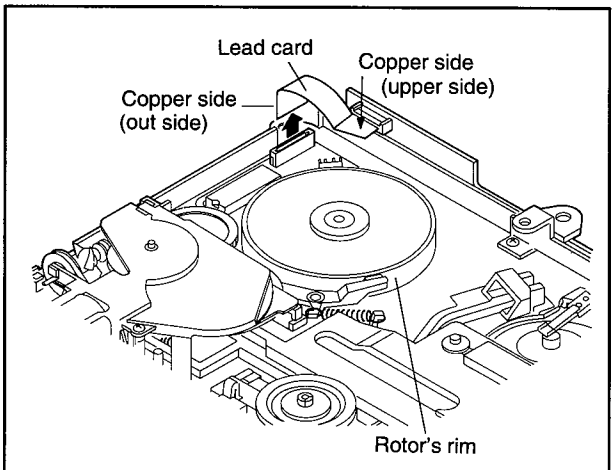


Fig. 2-38-1

(Installation)

① Reverse the deck, position the capstan motor so that the capstan brake is on the outside of the capstan motor.

② Turn the deck the right side up, secure the capstan motor with the three screws shown in Fig. 2-38-2.

③ Bend the new lead card as shown in Fig.2-38-3 and connect it to the connectors of the PCB of the capstan motor and the PCB-HEAD-AMP so that copper side appears as shown in Fig. 2-38-1. Take care not to touch the rotor of the capstan motor.

④ Install the reel belt.(Refer to Para. 2-28 for the installation method.)

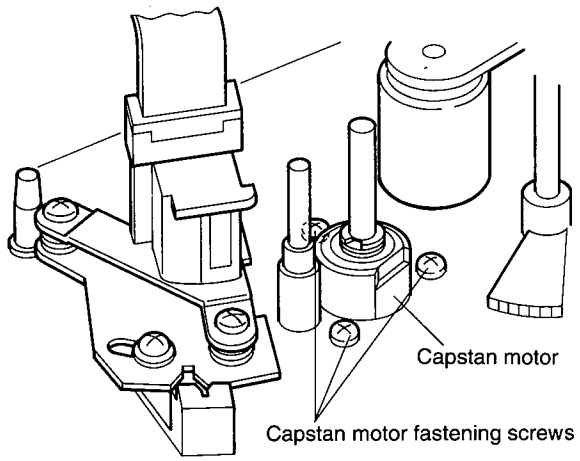


Fig. 2-38-2

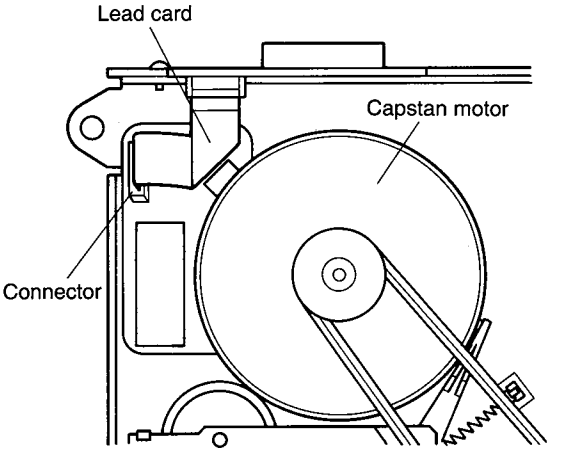


Fig. 2-38-3

2-39 A/C Head Assembly

(Removal)

Note: During installation of A/C head assembly, take care not to touch or score the tape running surface.

① Lift the stopper shown in Fig. 2-39-1 upward and disconnect the lead connector(bare wire), which is connected to the PCB-A/C-HEAD.

② Remove the two screws(ⓐ and ⓑ) holding the A/C head assembly to the main plate, and to remove the A/C head assembly. (Refer to Fig. 2-39-2.)

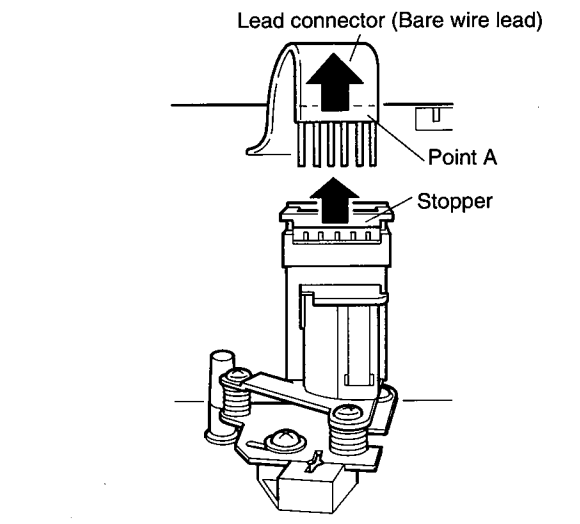


Fig. 2-39-1

(Installation)

① Make sure that the spring(A/C earth spring) is as shown in Fig. 2-39-3.

② Place the A/C head assembly in the position shown in Fig. 2-39-2 and secure it with the two screws(ⓐ and ⓑ).

③ Shift part A downward and lower the stopper. Connect the lead connector to the connector on the PCB-A/C-HEAD as shown in Fig. 2-39-1.

Note: Conduct the A/C head adjustment and the phase adjustment as outlined in Para. 3-3 and 3-4 after the new A/C head is installed.

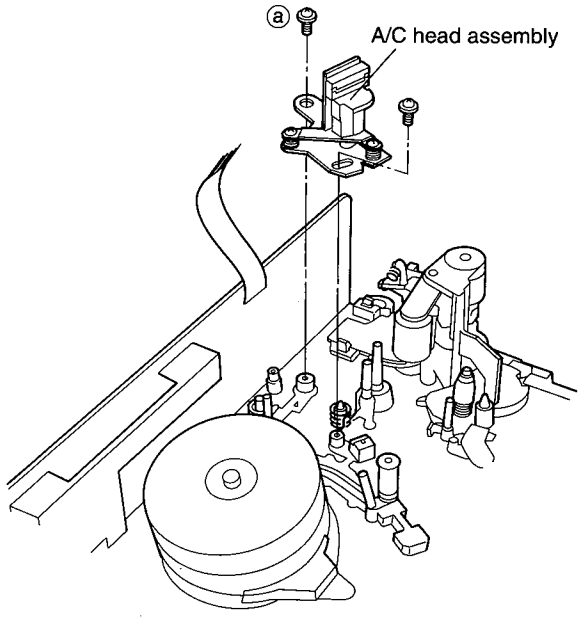


Fig. 2-39-2

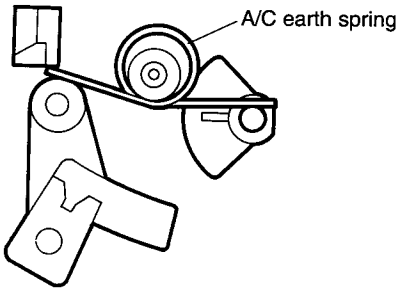


Fig. 2-39-3

2-40 A/C Head

(Removal)

① Disconnect the lead connector connected to the PCB-A/C-HEAD. (Refer to Item ① of Para. 2-39 for the removal method.)

② Remove the three screws(ⓐ, ⓑ and ⓒ), shown in Fig. 2-40-1 to remove the A/C head.

③ Unsolder the PCB-A/C HEAD from the A/C head.(Refer to Fig. 2-40-1.

(Installation)

① Install the A/C head with the A/C spring and the three screws(ⓐ, ⓑ and ⓒ) as shown in Fig. 2-40-1.

Note: When installing the A/C head on the A/C plate, the base plate of the A/C head must be parallel to the A/C plate and the spacing between them should be as specified in Fig. 2-40-2.

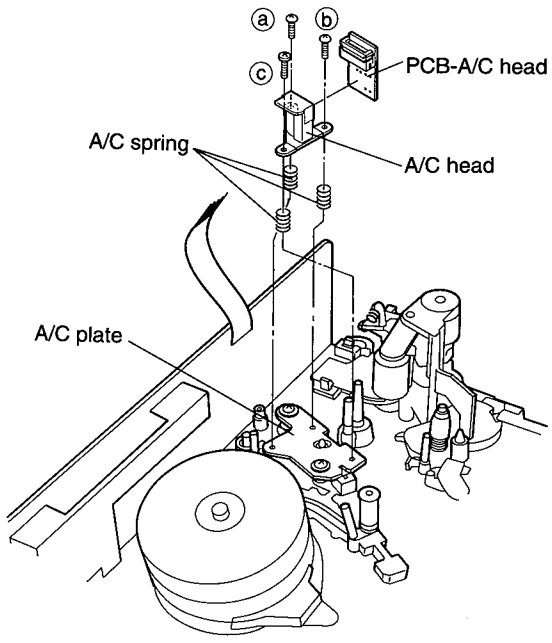


Fig. 2-40-1

② Connect the lead connector to the PCB-A/C-HEAD. (Refer to Item ③ of Para. 2-39 for the installation method.)
③ Perform the A/C head adjustment as outlined in Para. 3-3 and the phase adjustment as outlined in Para. 3-4.

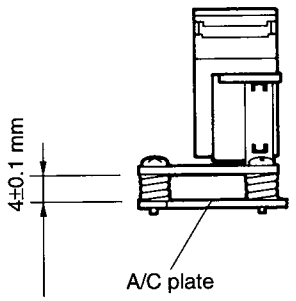


Fig. 2-40-2

2-41 Supply & Takeup Guide Rollers

(Removal)
① Loosen the set screws with a hexagon key so that the guide rollers rotate freely.
② Turn the height adjustment screws at the top of the guide rollers counterclockwise with a height adjustment screwdriver to loosen them. Lift the guide roller upward to remove them from the tape guides.(Refer to Fig. 2-41-1)

(Installation)
① Make sure that the rubber rings are fixed to the fastening thread portions of the new guide rollers.
② Perform the following steps ③ to ⑤ to seat in the rubber rings.
③ Slowly turn the guide rollers clockwise until the rubber rings are firmly seated.
④ Turn the guide rollers a further 1/6 of a turn clockwise and then turn them one turn counter-clockwise.
⑤ Slowly turn the guide rollers clockwise until they become firmly seated again. Turn the guide rollers a further 1/6 of a turn clockwise.
⑥ Secure the guide rollers lightly with the set screws. Perform the mechanism check and adjustment of the FM envelope as outlined in Para. 3-2.

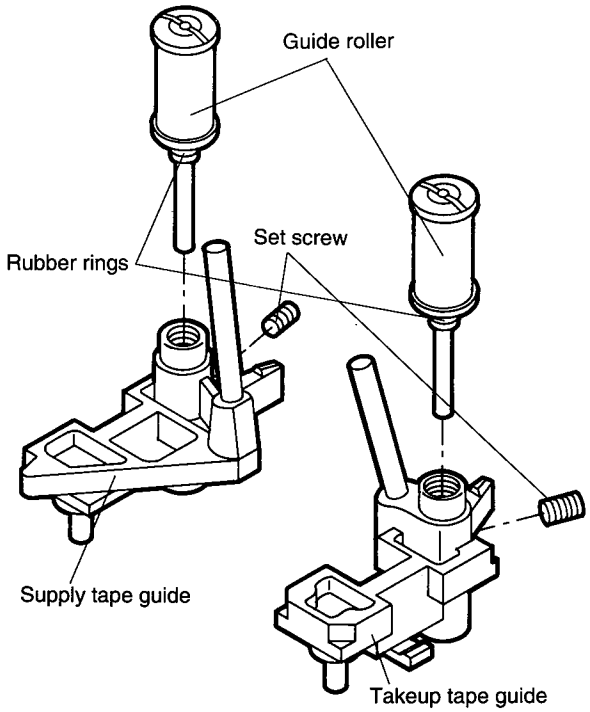


Fig. 2-41-1

2-42 Cleaning Roller, Cleaning Arm, Cleaning Lever, and Cleaning Spring

(Removal)

① Remove the PCB-HEAD-AMP. (Refer to Para. 2-8 for the removal method.)

② Unfasten the catch to remove the cleaning roller.(Refer to Fig. 2-42-1)

③ Turn part A of the cleaning assembly clockwise as shown in Fig. 2-42-2 to release the catch part B Fig. 2-42-2 and Fig. 2-42-3(c). Release the catch part E and remove the cleaning assembly from the shaft.

④ Remove the cleaning spring to detach the cleaning arm and the cleaning lever.

(Installation)

① Attach the cleaning arm to the cleaning lever and turn it clockwise as shown in Fig. 2-42-3(c). Make sure that the cleaning arm and the cleaning lever turn without binding.

② Hook one end of the cleaning spring with the boss (point C), projecting from the cleaning arm, and the other end to point D of the cleaning lever as shown in Fig. 2-42-3(d).

③ Place the cleaning assembly in the position shown in Fig. 2-42-1, and in the direction shown in Fig. 2-42-2(b). Turn the part A, shown in Fig. 2-42-2, counterclockwise to set the part B under the A/C plate of the A/C head assembly. Make sure that the spring hooks with the boss of the main plate shown in Fig. 2-42-2. Shift the part A in the direction shown by the arrow and release to make sure that it returns.

④ Insert the cleaning roller into the position shown in Fig. 2-42-1 to install it.

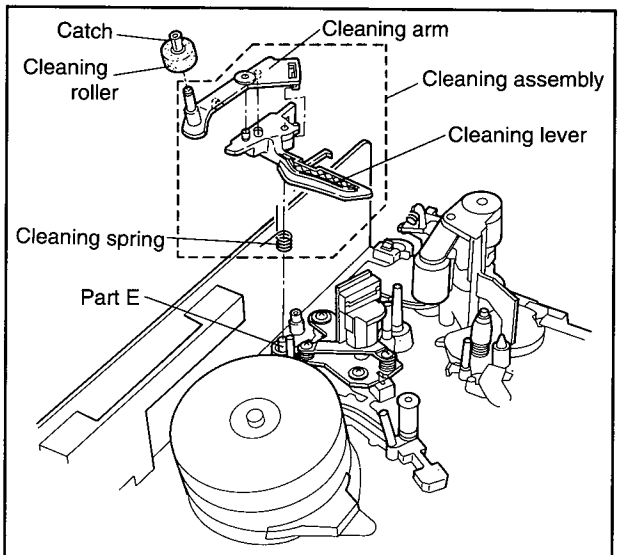


Fig. 2-42-1

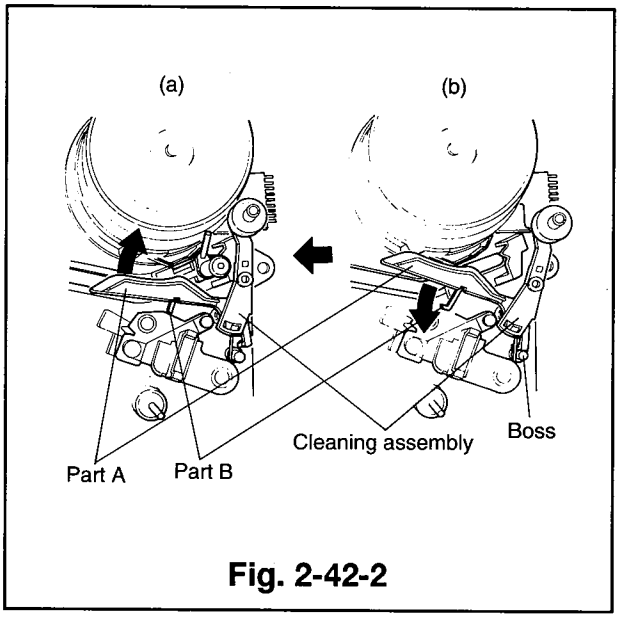


Fig. 2-42-2

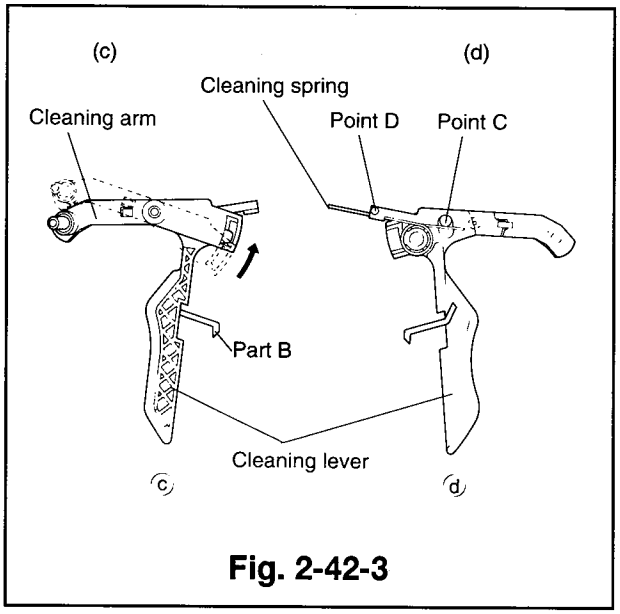


Fig. 2-42-3

2-43 Supply & Takeup Tape Guide Assemblies

(Removal)

① Remove the cassette housing. (Refer to Para. 2-1 for the removal method.)

② Remove the PCB-HEAD-AMP. (Refer to Para. 2-8 for the removal method.)

③ Remove the cleaning assembly. (Refer to item ④ of Para. 2-42 for the removal method.)

④ Unscrew the three screws(ⓐ, ⓑ and ⓒ) to remove the drum base together with the drum assembly. (Refer to Fig. 2-43-1.)

⑤ Slide the supply and takeup tape guide assemblies to the end of the loaded position by either of the following methods.

- Supply voltage (approximately 5V plus voltage on the red wire) to the loading motor as in ② of the removal method in Para. 2-19.
- Turn part A of pulley worm J by hand, in the direction shown by the arrow (a) as shown in Fig. 2-43-3. Raise the supply and takeup tape guide assemblies upward to remove them.

(Installation)

① Apply grease(PG-641)[859D055O30] to the area shown in Fig. 2-43-2 of the supply tape guide assembly.

② Install the supply and takeup tape guide assemblies so that they respectively enter the holes at the ends of the loading arms(SP and TU)attached to the reverse side of the deck as shown in Fig. 2-43-1.

③ Slide the supply and takeup tape guide assemblies to the unloaded position, by either of the following methods so that the upper hole of the mode switch aligns with that of the cogwheel as shown in Fig. 2-43-4.

- Supply voltage (approximately 5V), reversing the polarity used in ④ of the removal method, to the loading motor as ⑤ of the installation method in Para. 2-19.
- Turn part A of the pulley worm J by hand, in the direction shown by the arrow (b) as shown in Fig. 2-43-3.

④ Make sure that the hole of the gear joint J aligns with the matching mark of the main plate, and the matching mark of the gear pinch with that of the mode switch as shown in Fig. 2-43-5.

⑤ Install the drum base on which the drum assembly is attached and secure it with the three screws (ⓐ,ⓑ and ⓒ) as shown in Fig. 2-43-1.(Tighten the screws in the order ⓐ→ⓑ→ⓒ.)

⑥ Install the cleaning assembly. (Refer to Item ③ of Para. 2-42 for the installation method.)

⑦ Install the PCB-HEAD-AMP. (Refer to Para. 2-8 for the installation method.)

⑧ Install the cassette housing. (Refer to Para. 2-1 for the installation method.)

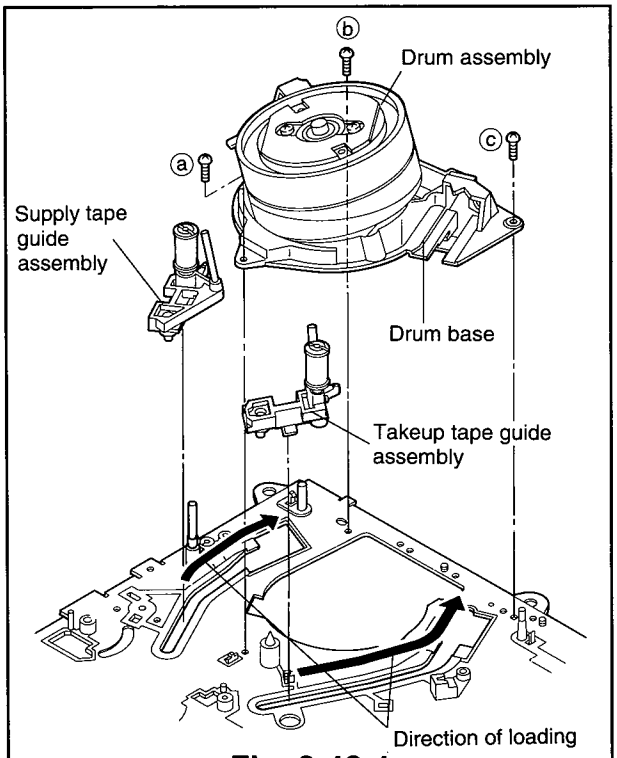


Fig. 2-43-1

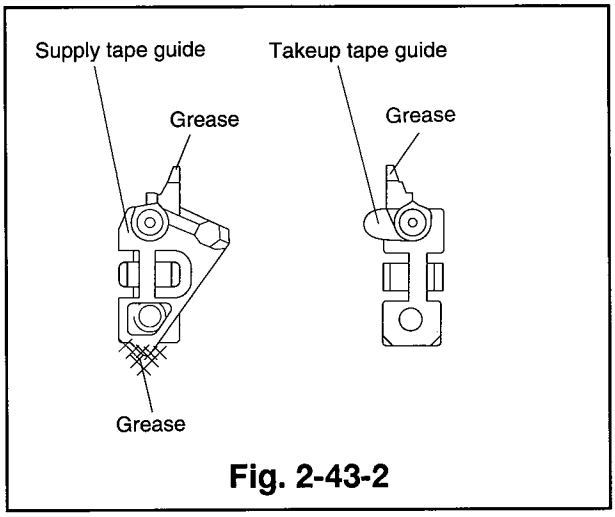


Fig. 2-43-2

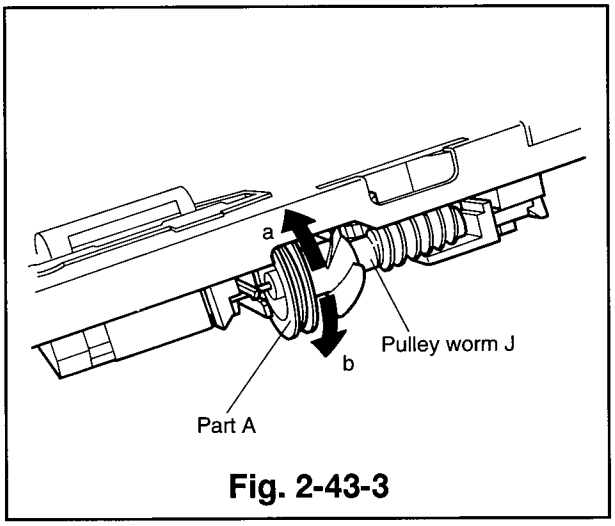


Fig. 2-43-3

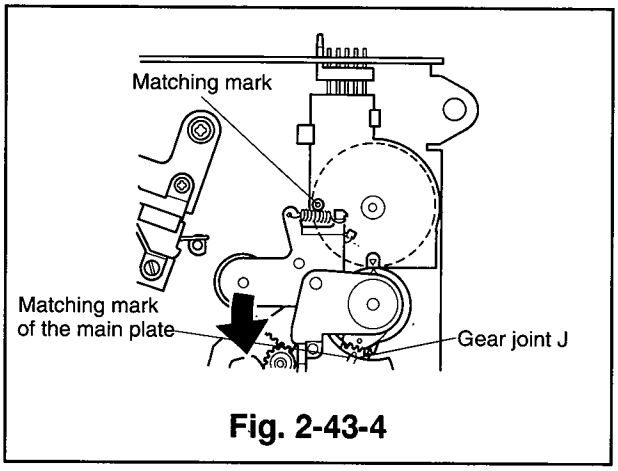


Fig. 2-43-4

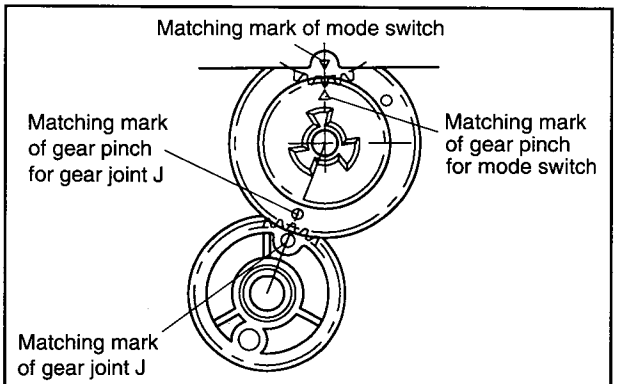


Fig. 2-43-5

2-44. Drum base spring

(Removal)

① Remove the drum base spring between the drum base and the drum assembly. (Refer to Fig. 2-44-1.)

Note: If the drum base spring is difficult to remove, remove the drum assembly in advance. (Refer to Para.2-10)

Note: During removal and installation of the drum assembly, do not touch the tape running surface with your hands.

(Installation)

① Set the drum base spring in the gap between the drum base and the drum assembly. Make sure that the drum base spring is secure enough not to fall out.

② Apply grease(PG-641)[859D055O30] to the area of the drum base spring as shown in Fig. 2-44-1.

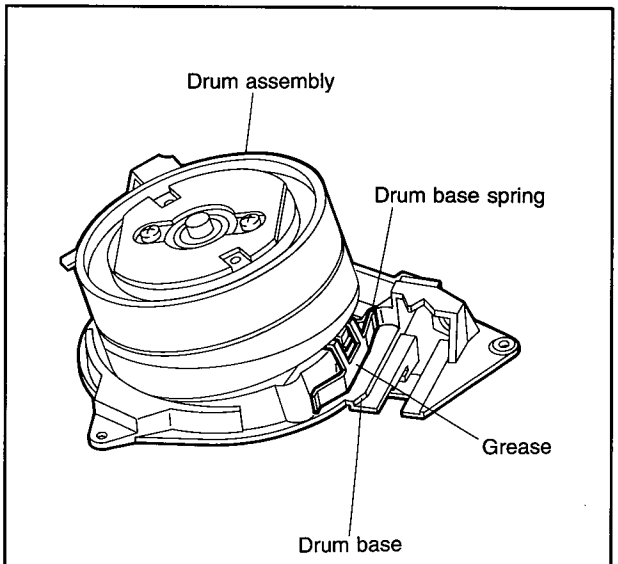


Fig. 2-44-1

3. Interchangeability Adjustment of Mechanism

Note1:

Tracking may need to be preset during the interchangeability adjustment of the mechanism. Digital tracking should be preset by short circuiting TP5A and TP5B on the PCB-MAIN.

Note2:

The adjustment is performed in the playback mode, using the stair step signal of an alignment tape, connect an oscilloscope to TP2A and external Trig. From TP2H, unless otherwise specified.

3-1 Adjustment of Back-Tension and Tension Pole Position

Run a blank tape for several minutes to break in the reel disks and the transport before making the adjustment.

① Cut out the alignment tape[NM1KH2:859C568O20] as shown in Fig. 3-1-2 this allows the boss to be adjusted while playing the tape by inserting the hexagon wrench through the round hole of the cassette housing shown in Fig. 3-1-1. (Take care not to let fragments of the cassette inside the cassette tape.)

② Playback an alignment tape which has a cut out.

③ Make sure that tip section A of the tension arm is between the divisions " 2 " and " 2.5 " on the main plate. (The divisions are numbered from the right to left.)

④ If tip section A of the tension arm is on the right of " 2 ", turn the boss clockwise. If A is on the left of " 2.5 ", turn it counter-clockwise.

⑤ Insert the back tension measuring jig(Part No. 859C346060) and set the VCR to the playback mode.

⑥ When the running of the tape becomes steady, make sure that the reading of the Back Tension Measuring Jig is within 50±6g-cm.

⑦ If the reading is over the specified value, replace the tension spring.

⑧ When the running of the tape is steady, check visually to make sure that the runout of the tension pole is 1mm or less.

⑨ If the runout is not within the specified value, replace the reel disk.

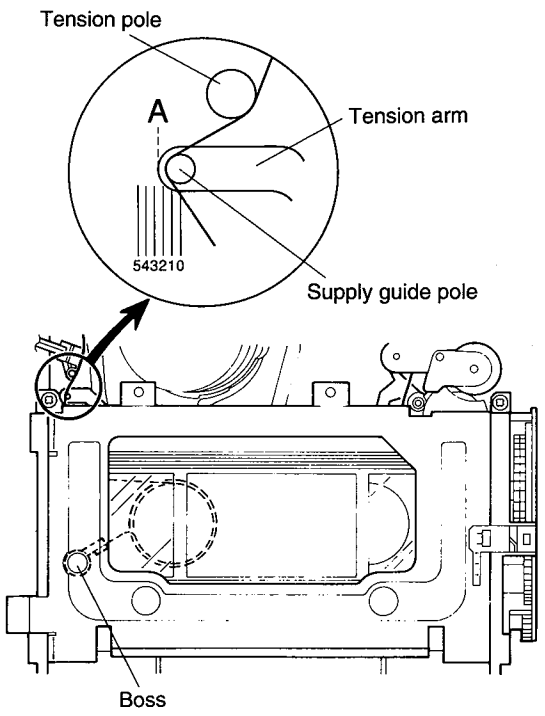


Fig. 3 - 1 - 1

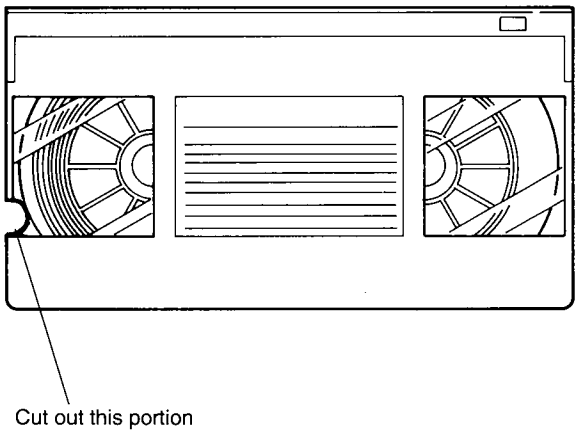


Fig. 3 - 1 - 2

3-2 Check and Adjustment of FM Envelope

3-2-1 Guide Roller Adjustment

① Play back the alignment tape.
[NM1KH2 : 859C568O20]
② Preset tracking. (Refer to NOTE 1 in Para. 3.)
③ Check if the FM waveform is flat like A.
(Refer to Fig. 3-3-2)
④ Adjust the height of the supply guide roller if the leading portion (the entry side of the drum) of the FM waveform is not flat, like B or C. (Refer to Fig. 3-3-2) Adjust the height of the takeup guide roller if the trailing portion (the exit side of the drum) is not flat, like D or E.

3-2-2 Adjustment of Supply Guide Roller Height

① Loosen the set screw until the supply guide roller is held lightly when rotated.
② The supply guide roller may be low if the leading portion (the entry side of the drum) of the FM waveform is like B, and high if like C. Turn the adjusting screw at the top of the roller to adjust the height of it so that the FM waveform is flat like A.
- Turn the adjusting screw counter-clockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

③ Coarsely adjust the phase as in Item 3-3-4.

3-2-3 Adjustment of Takeup Guide Roller Height

① Loosen the set screw until the takeup guide roller rotates lightly.
② The takeup guide roller may be low if the trailing portion (the exit side of the drum) of the FM waveform is like D, and high if like E. Turn the adjusting screw at the top of the roller to adjust the height so that the FM waveform is flat like A.
- Turn the adjusting screw counter-clockwise if the roller is low.
- Turn the adjusting screw clockwise if the roller is high.

③ Coarsely adjust the phase as in Item 3-2-4.

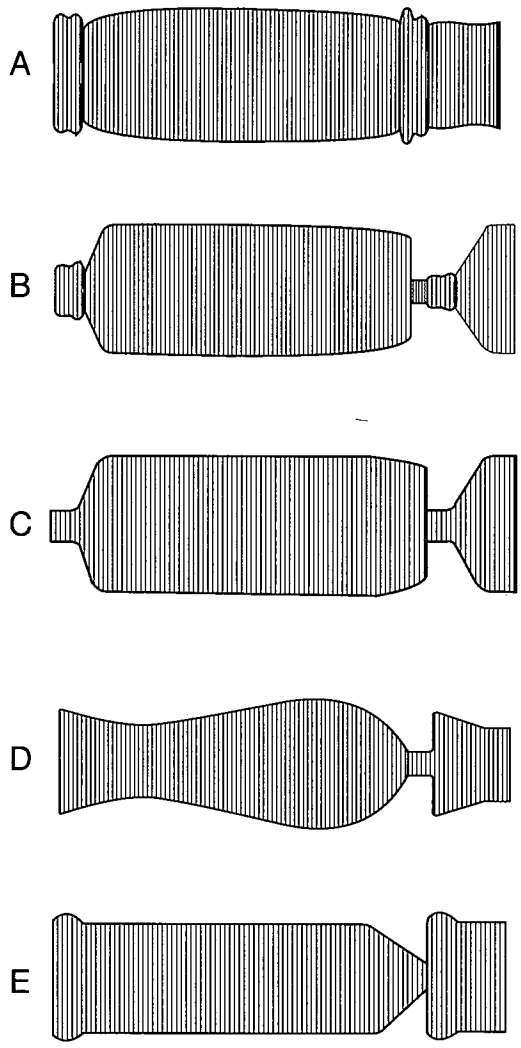


Fig. 3 - 2 - 1

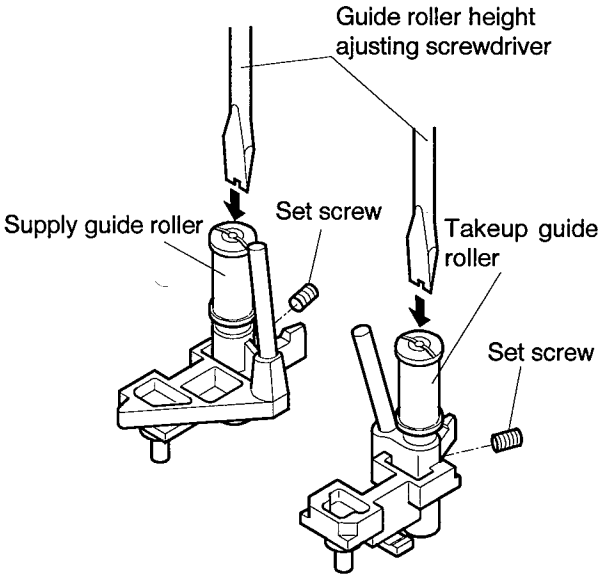


Fig. 3 - 2 - 2

3-2-4 Coarse Adjustment of Phase

① Play back the alignment tape.
[NM1KH2 : 859C568O20]

② Preset tracking. (Refer to NOTE 1 in Para. 3.)

③ Check the FM waveform after checking and adjusting the guide rollers.

④ If the amplitude of the FM waveform is narrow like F because of out of phase, adjust it to maximum like G, as shown in Fig. 3-2-4 by the following procedure. Loosen the screw E , insert a screw driver into the groove at the Base A/C and the main plate, and shift the Base A/C right and left.

⑤ Tighten the screw E to secure the base-A/C in place.

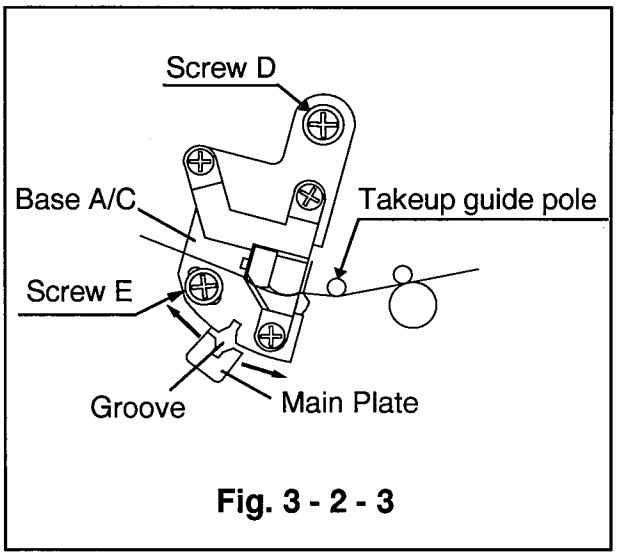


Fig. 3 - 2 - 3

3-2-5 Check of FM Waveform Flatness

① Play back the alignment tape.
[NM1KH2 : 859C568O20]

Note: In the following adjustment, follow the next procedure for automatic/manual-selection and adjustment of tracking.

- Turn the JOG dial while pressing the O.K.PROG. button on the VCR during playback.
- To switch from manual tracking back to automatic digital tracking, press the O.K.PROG. button on the VCR during playback.

② In the manual tracking mode, change tracking and make sure the amplitude is changeable while the FM signal remains flat.

③ Adjust tracking so that the amplitude of the FM waveform is maximum. Set the oscilloscope so the amplitude of the FM waveform is 5 division.

④ Adjust tracking so that the peak value of the FM waveform is 4 divisions. Check if the FM waveform B, C, D, and E are within the specified values shown in Fig. 3-2-5.

⑤ If the waveform is not within the specified value, repeat the procedure for checking and adjustment of FM envelope in Item 3-2 from the beginning.

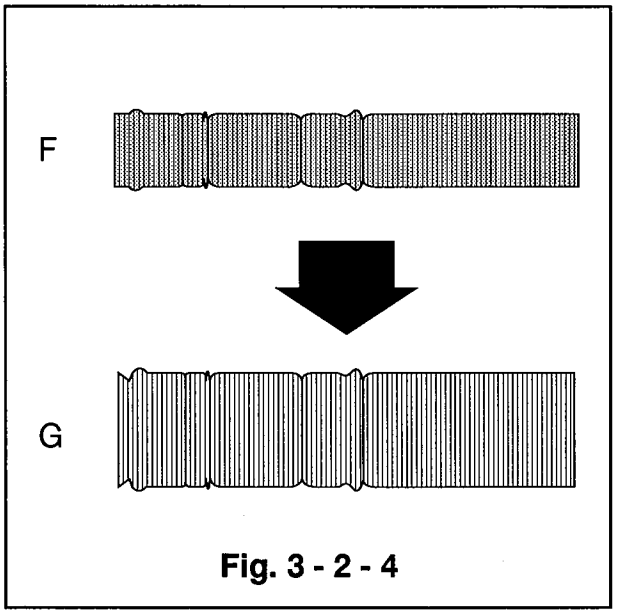
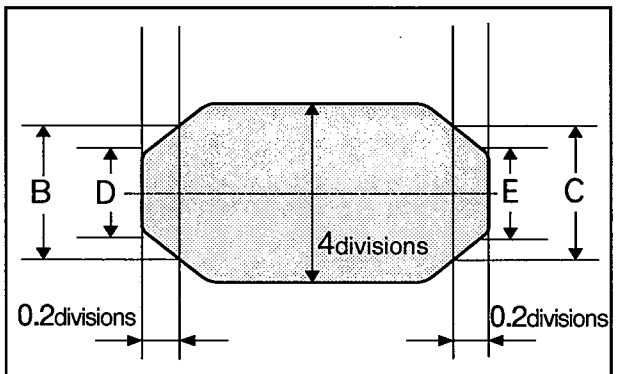


Fig. 3 - 2 - 4



B , C	At least 2.8 of the scale
D , E	At least 2.0 of the scale

Fig. 3 - 2 - 5

3-2-6 Check 1: Tape Running Condition on Guide Rollers (Refer to Fig. 3-2-6)

① Play back the alignment tape.
[NM1KH2 : 859C568O20]

② Visually check if there is a space between the tape and the lower flange of the supply guide roller and takeup guide roller.

③ If there is no space, replace the tape guide as in Item 3-2-7.

④ If the supply tape guide is replaced, check the guide roller as in Item 3-2-1 and if the takeup tape guide is replaced, check the guide roller as in Item 3-2-1 and check the FM waveform flatness in Item 3-2-5.

⑤ Load and unload the tape several times alternately check that flatness of the FM waveform does not change.

⑥ If flatness changes, check if the A/C arm is loose. If it is not loose, replace the A/C arm and repeat the procedure of coarse adjustment of phase in Item 3-2-4.

3-2-7 Replacement of Tape Guides

① If the current tape guide has no marking, replace it with one with a red mark.

② If the current tape guide has a black mark, replace it with one with no mark. If this replacement is not effective, replace the tape guide with one with a red mark.

③ If the current tape guide has a red mark, replace it with another one with red mark.

3-2-8 Check 2: Tape Running Condition on Guide Rollers.

① Play back the alignment tape.
[NM1KH2 : 859C568O20]

② Lightly press and release the top of the supply guide roller and takeup guide roller. Check if the FM waveform is quickly restored to the previous level.

③ If the waveform is not quickly restored, replace the tape guide as in Item 3-2-7.

④ If the supply tape guide is replaced, check the guide roller as in Item 3-2-1, and if the takeup tape guide is replaced, check the guide roller as in Item 3-2-1 and the check FM waveform flatness as in Item 3-2-5.

⑤ If satisfactory, tighten the set screw of the guide roller on the supply side and the takeup side.

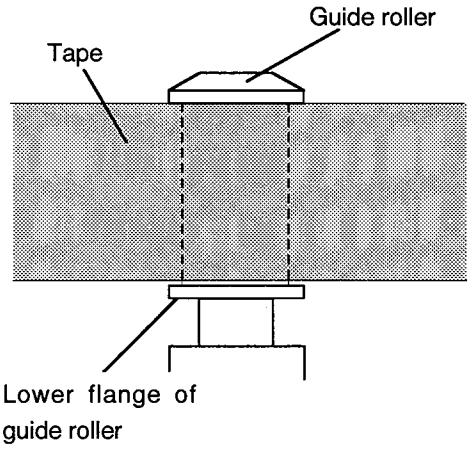


Fig. 3 - 2 - 6

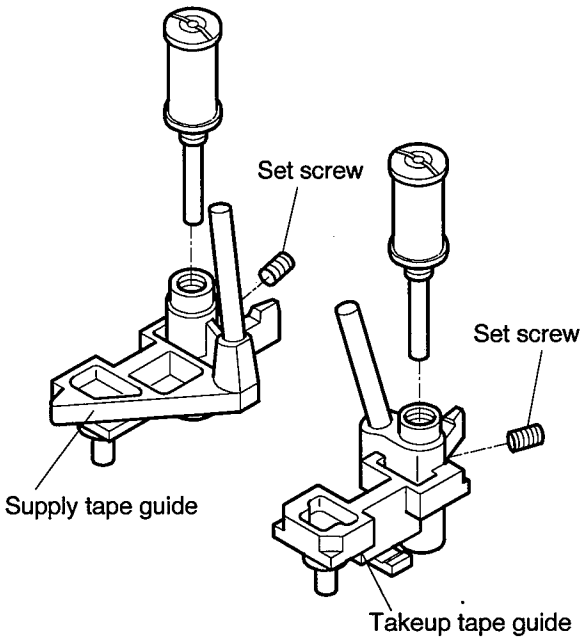


Fig. 3 - 2 - 7

I dentification of Tape Guide Item Number
(Example; Parts No. 635B059O10
Item No.

Item No. 1	No marking
Item No. 2	Marked with black magic marker
Item No. 3	Marked with red magic marker

*The marking point is on the top of the tape guides shown in figure above.

3-3 Adjustment of A/C Head

3-3-1 Adjustment of A/C Head Slant

① Playback a blank tape.
② Slowly turn the adjusting screw C counter-clockwise to crease the bottom of the tape slightly at the flange portion of the takeup tape guide.
③ Return adjusting screw C slowly to remove the crease.
④ Slowly turn adjusting screw C counter-clockwise again and stop turning just before the tape is creased.

3-3-2 Adjustment of A/C Head Azimuth and Height

① If the height of the CTL head is different from the specified-value in Fig. 3-3-2, adjust the height by the adjusting screw A.
② If adjusting screw A is moved, repeat the procedure in Item 3-3-1 to adjust the A/C head Slant.
③ Connect the oscilloscope to the audio output terminal and set the VCR to the playback mode.
④ Playback the standard tape. [NS-1:859C339O00]
⑤ Turn adjusting screw B to adjust azimuth so that the audio output level is maximum. Set the scope for an amplitude of 5 divisions.
⑥ After the adjustment of ⑤, pull out the screw driver and check if the audio output level is 4.6 divisions or more, when the maximum level (audio output) of ⑤ was set for 5 divisions.
⑦ If the audio output level is below the specified value, repeat the procedure ①~⑥.
⑧ Push the A/C head to the right and left(in the direction of A and A' in Fig. 3-3-1) and the release the A/C head. Check that the audio output level does not change. (Do not push past the point where the audio output level is reduced by 3/4 of its maximum value.)
⑨ Set the VCR to the playback mode and check if the change of the audio output level is less than 2dB.
⑩ If the change is over 2dB, adjust the A/C head slant again and recheck.
⑪ If not satisfactory, replace the takeup tape guide complying with the following procedure and repeat this adjustment.

- If the original tape guide has no marking, replace it with the one with a black mark.
- If the original tape guide has a black mark, replace it with on with a black mark.
- If the original tape guide has a red mark, replace it with the one with a red mark. If this replacement is not effective, replace it with one with a black mark.

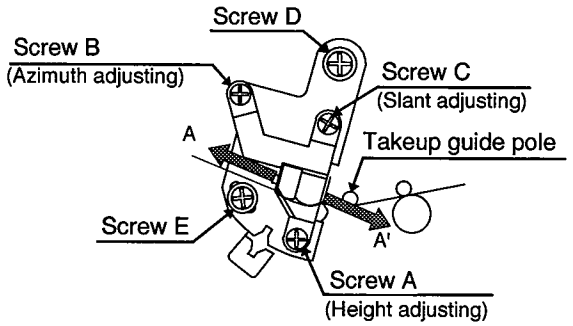


Fig. 3 - 3 - 1

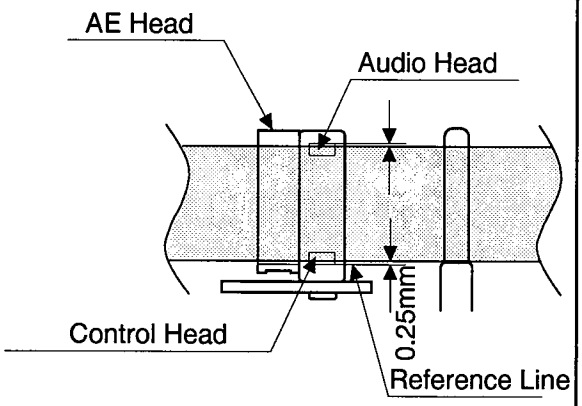


Fig. 3 - 3 - 2

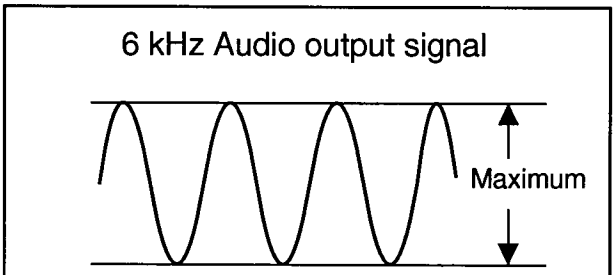


Fig. 3 - 3 - 3

I dentification of Tape Guide Item Number
(Example; Parts No. 635B059O10)
Item No.

Item No. 1	No marking
Item No. 2	Marked with black magic marker
Item No. 3	Marked with red magic marker

*The marking point is on the tops of the Takeup and Supply tape guides.
(Refer to Fig. 3-2-7)

3-4 Adjustment of Phase

① Set the VCR to the playback mode. (Use the alignment tape specified below to perform adjustment①~④.
[NM3KE6 : 859C339O50]

② Preset tracking. (Refer to NOTE 1 in Para. 3.)

③ Loosen the screw E, insert a screw driver into the gap between the Base A/C and the main plate, and shift the Base A/C right and left to adjust the FM waveform to maximum.

④ Tighten the screw E.

⑤ Play back the alignment tape. (NMX:859C568O60)

⑥ Connect TP2A (the FM waveform output) and the audio output terminal to the oscilloscope, external Trig. to TP2H, and check if the missing portions of the FM waveform and that of the audio waveform are within the specified value (field). (Refer to Fig. 3-4-2.)

⑦ If they are not within the specified value, repeat the procedure ③.

⑧ Turn the normal tracking control to adjust the FM waveform for maximum and set the oscilloscope so that the waveform is '5' divisions.(Refer to Note in Para. 3-2-5 about tracking adjustment.)

⑨ Preset tracking. (Refer to NOTE 1 in Para. 3.)

⑩ Check that the FM waveform on the oscilloscope is " 4.8 " or more divisions.

⑪ If the FM waveform is below " 4.8 " divisions, perform this adjustment after tracking preset.

⑫ Push the A/C head to the right and left (in the direction of A-A' in Fig. 3-4-1) and then release the A/C head. Check that the amplitude of the FM waveform does not change from that before shifting the A/C head.

⑬ If the amplitude changes, check if the A/C arm shaft is loose. If it is not loose, replace the A/C arm and repeat the procedure of this adjustment from the beginning, after the adjustment of A/C head in Item 3-3.

⑭ Alternately load and unload the tape several times to check that the amplitude of the FM waveform does not change.

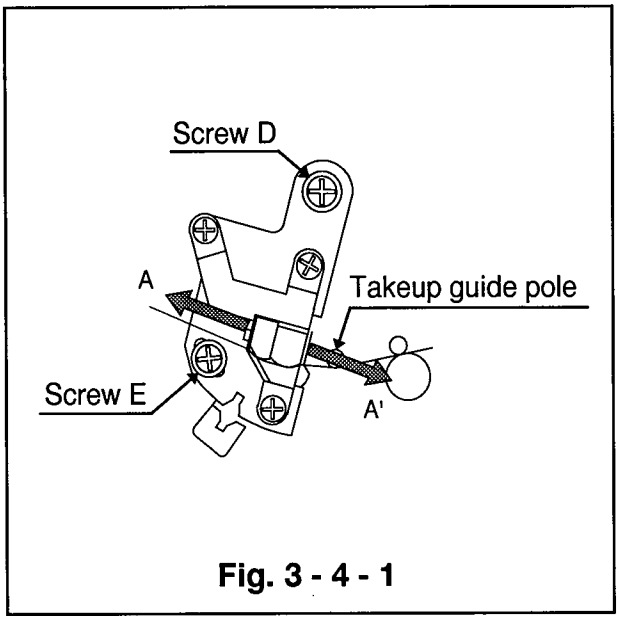


Fig. 3 - 4 - 1

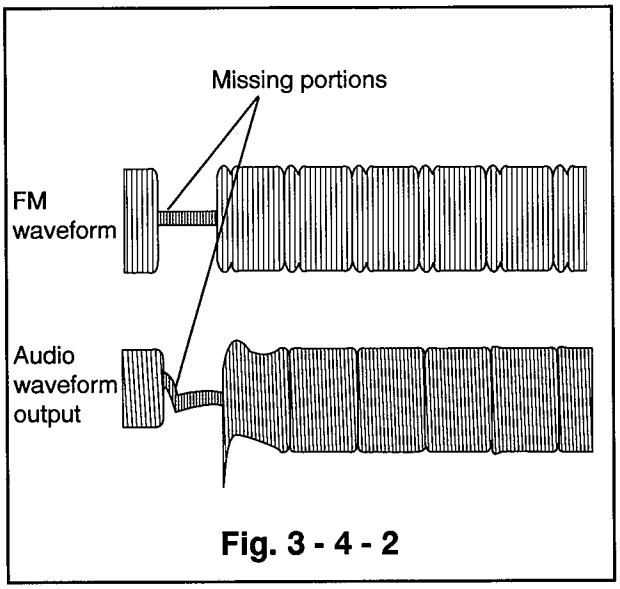


Fig. 3 - 4 - 2

3-5 Adjustment of Takeup Guide Arm Height

① Run a final portion of T-160 blank tape in the reverse search mode.

② Tighten the adjusting nut of takeup tape guide until the tape is creased at the lower flange of the takeup guide pole. Then slowly return the nut and stop at the point where the crease is removed. (During adjustment, use a uncovered cassette tape or raise the cover so that the adjustment can be performed.)

Note:

During adjustment, turn the adjusting nut in the loosening direction. Do not turn the nut more than ±1/2 turn.

③ Eject the cassette tape, set the VCR to the reverse search mode again, and check that the tape is not creased at the upper or lower flange of the takeup tape guide.

④ Set the VCR to the playback mode and check that the tape is not creased at the upper or lower flange of the takeup guide pole.

⑤ Run the start portion of T-120 blank tape in the forward search mode and check that the tape is not creased at the takeup guide pole.

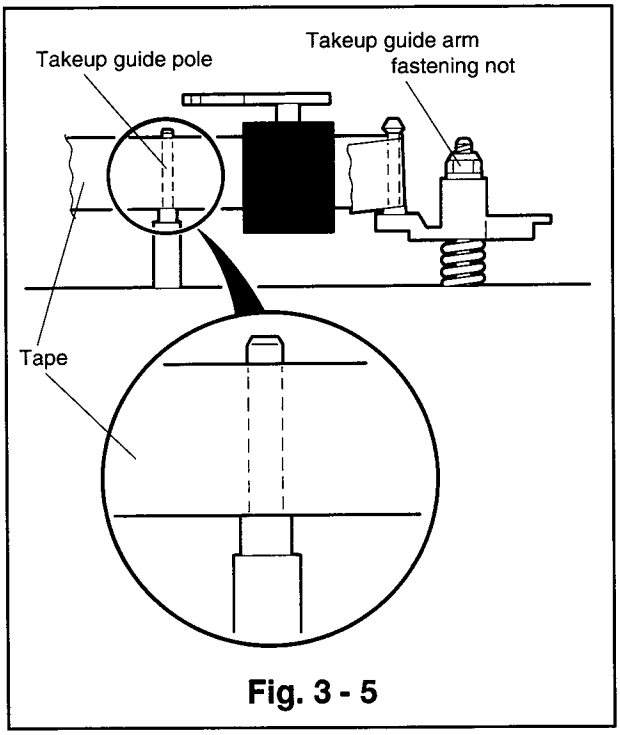


Fig. 3 - 5

4. Servicing for Tape Jamming during the Loading Mode

① Remove the upper cover.
② Remove the front unit.
③ Remove the bottom panel.
④ Reverse the deck and turn the pulley worm J in the direction shown by the arrow in Fig.4-1, observe whether the tape guides move to the unloading position. If they do not, follow the procedure (1).
If they do, follow the procedure (2).

(1) If the tape guides do not move (the pulley worm J does not turn);

① Unfasten the clamp holding the leads of the loading motor, which are attached to the side plate of the cassette housing. Unscrew screws (ⓐ and ⓑ) holding the cassette housing as shown in Fig. 4-2.
② Hold the cassette door with a screw driver to keep it open. (Take care not to allow the screw driver to touch other parts of the tape transport.)

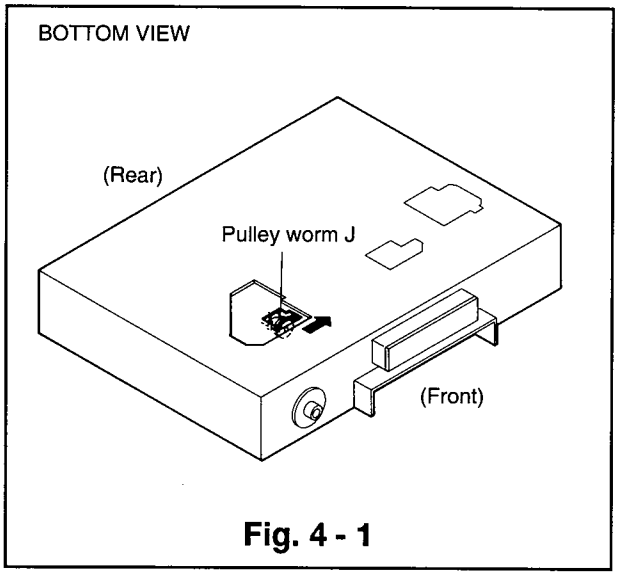


Fig. 4 - 1

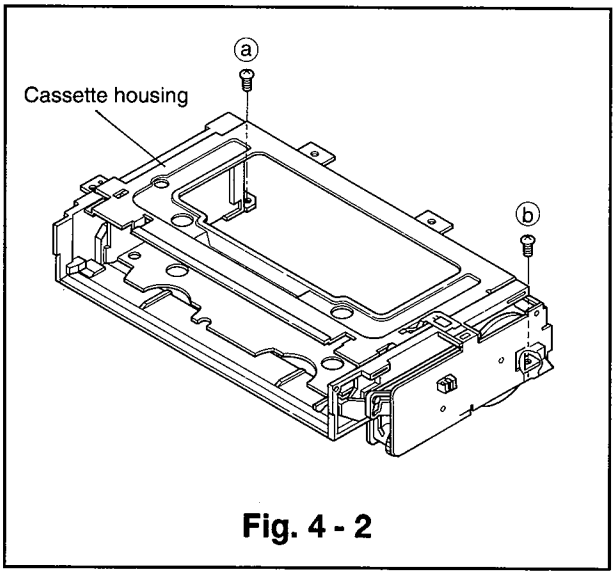


Fig. 4 - 2

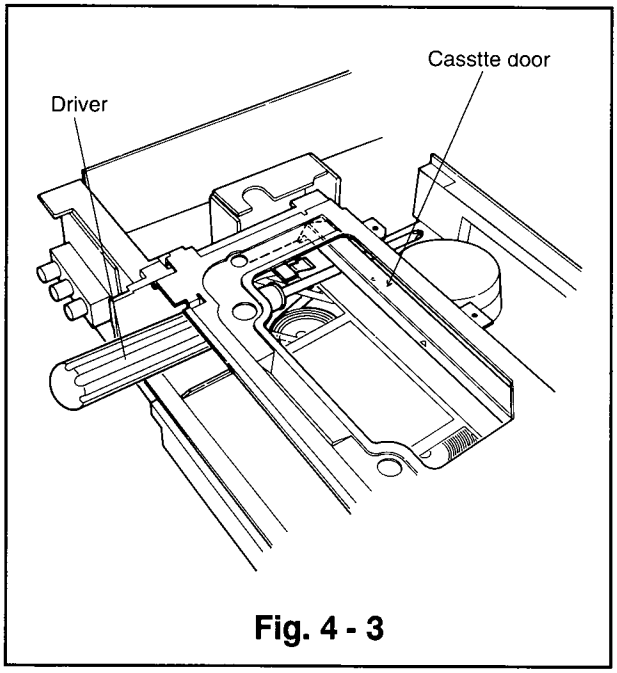


Fig. 4 - 3

③ Open the cassette door fully with your hand. Unfasten the catch to remove the pinch roller arm cap as shown in Fig.4-4. (Refer to Para.2-24 for the removal method.)

④ Push part A of the pinch roller arm assembly, shown in Fig.4-5, in the direction shown by the arrow to make a space between the pinch roller arm assembly and the tape. Remove it together with the pinch cam taking care not to damage the tape.

⑤ Remove the screw driver (refer to Item ②), while holding the cassette door open with your hand. While pushing the tension arm in the direction shown by the arrow in Fig. 4-6 raise the cassette housing upward to remove it from the tape transport as shown in Fig. 4-7. Take care that the grease, which is applied to the main plate, does not adhere to the tape.

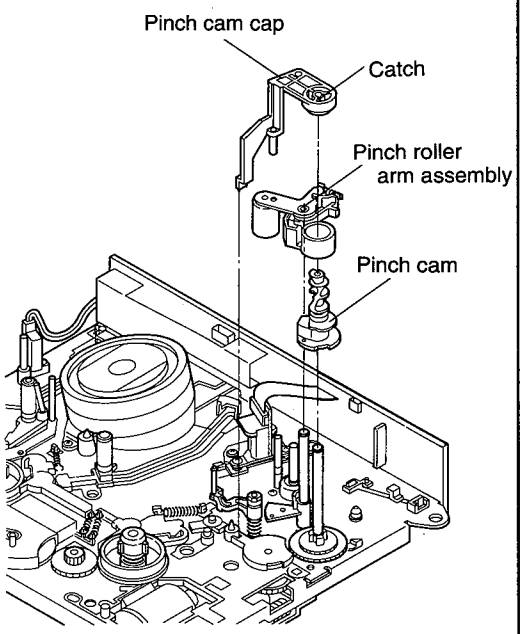


Fig. 4 - 4

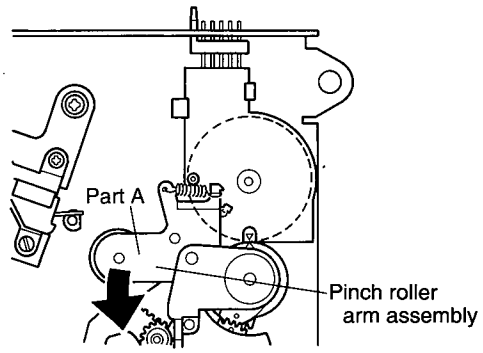


Fig. 4 - 5

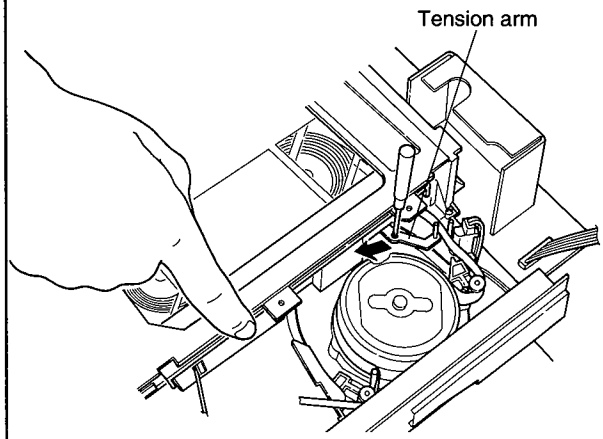


Fig. 4 - 6

⑥ Turn the cassette reel of the cassette tape to wind up the tape as shown in Fig.4-8.

⑦ Turn the wheel gear shown in Fig.4-9 in the direction shown by the arrow to eject the cassette tape.

⑧ Reverse the deck and turn the motor pulley J in the direction, shown by the arrow in Fig.4-1, so that the matching mark M of the mode switch is in the position shown in Fig.4-10 (the eject position). Make sure that the matching marks of the mode switch and the gear pinch, and those of the gear pinch and the joint gear, respectively, align as shown in Fig.4-11. Turn the takeup guide arm clockwise to such a degree that takeup guide gear is not in the way of mounting the pinch roller cam to the shaft. Install the pinch roller cam so that its holes align with the triple catch of the gear pinch. (Refer to Para.2-24 for the installation method.)

⑨ Install the pinch roller arm and the pinch roller arm cap.

⑩ Install the cassette housing. (Refer to Para.2-1 for the installation method.)

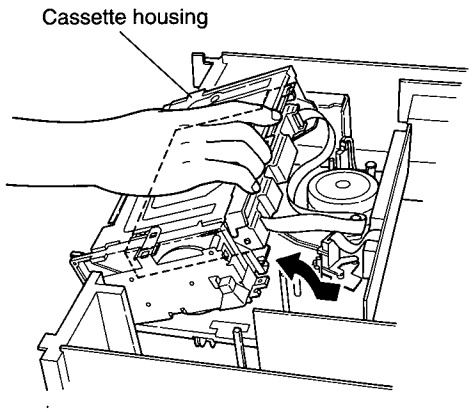


Fig. 4 - 7

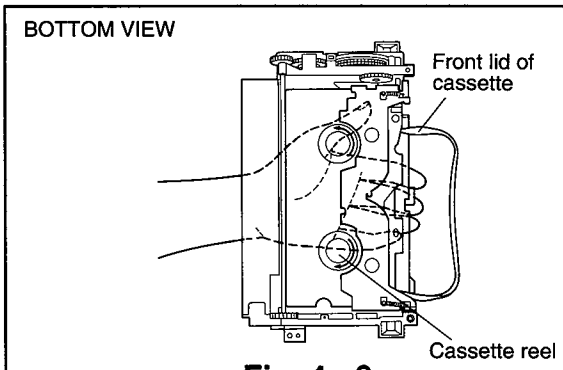


Fig. 4 - 8

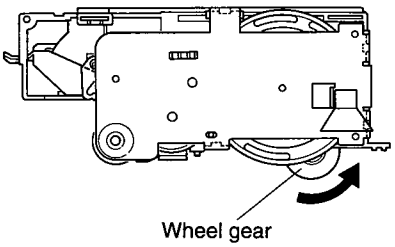


Fig. 4 - 9

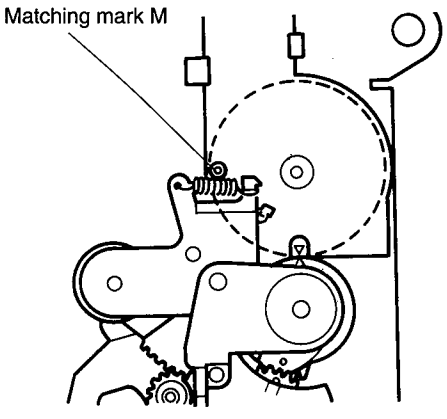


Fig. 4 - 10

(2) If the tape guides move (the pulley worm J turns);

① Reverse the deck and turn the pulley worm J in the direction shown by the arrow in Fig.4-1 so that the takeup guide arm moves to the end of the unloading cycle.

② Turn the capstan shaft, shown in Fig.4-12, clockwise to turn the reel so that the tape is wound back into the cassette. (Take care not to scar or stain the capstan shaft. After winding up the tape, clean the capstan shaft with alcohol, refer to Para.1-2.)

③ Turn the pulley worm J as in Item ① so that the matching mark of the mode switch is in the position shown in Fig.4-10 (the eject position). Eject the cassette tape.

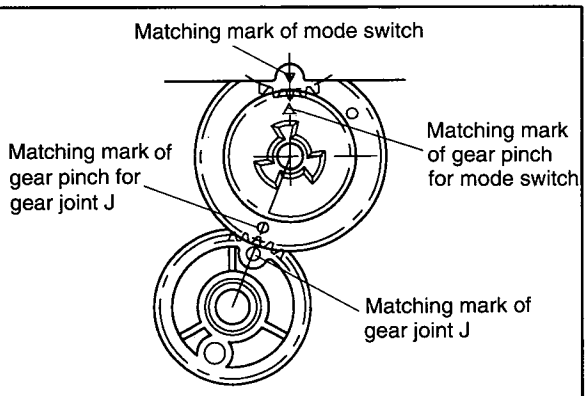


Fig. 4 - 11

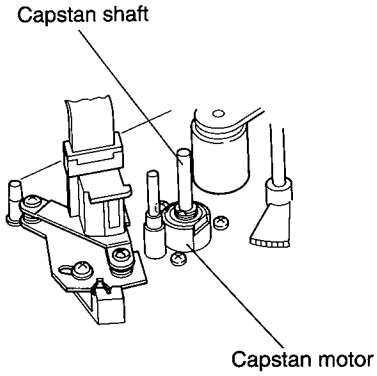


Fig. 4 - 12

GLOSSARY OF ABBREVIATIONS

A/C	Audio/Control
ACC	Automatic Color Control
A.E	Audio Erase
AFC	Automatic Frequency Control
AFT-D	Automatic Fine Tuning Door Switch
AGC	Automatic Gain Control
AL	After Load
AMP	Amplifier
ANT	Antenna
A-PB	Audio-Playback
A-REC	Audio-Recording
ALC	Automatic Level Control
B-FS	Brake Forward Search
B-RS	Brake Reverse Search
BPF	Band-Pass Filter
B/W	Black and White
BS	Band SW
CASS	Cassette
CP	Capstan
CP-FG	Capstan-Frequency Generator
CP-F/R	Capstan-Forward/Reverse
CP-M	Capstan-Motor
CONV	Converter
CTL	Control
C-LAMP	Cassette Lamp
C-I LAMP	Cassette Indicator Lamp
CE	Chip Enable
$\overline{CE}$	Not Chip Enable
CK	Clock
CL	Clear
CNT	Counter
CP R-R	Capstan Reverse Rotation
CS-1	Cassette Switch 1
CS-2	Cassette Switch 2
DAL	Delay-After Loading
DEMOD	Demodulator
DET	Detector
DL	Delay Line
DL-REV	During Reverse
DL-FWD	During Forward
DOC	Drop Out Compensator
DL-SL	During Slow
DL-$\overline{SS}$	During Not Speed Search
DOP	Drop Out Pulse
EF	Emitter Follower
EMPHA	Emphasis
EQ	Equalizer
EE	Electronic-Electronic
ES	End Sensor
FE-H	Full Erase Head
FF	Fast Forward
FG	Frequency Generator
FL-SW	Front Loading SW
FLM	Front Loading Motor
F/R-SW	FF/Rewind Switch
F/R	Forward/Reverse
FS	Forward Search
G	Ground
HE	Hall Element
H-LED	Humidity-LED
H-SENS	Humidity-Sensor
HPF	High-Pass Filter
LIM	Limiter
LPF	Low-Pass Filter
LM	Loading Motor
MDA	Motor Drive Amplifier
MC	Mechanical Control
MIC	Microphone
MOD	Modulator
$\overline{N}$	Not Normal
OPE	Operation
OSC	Oscillator
O-PWV	ON/OFF Command from Remote Decoder
PB	Play Back
PG	Pulse Generator
P/R-SW	P.B/REC-SW
PCB	Printed Circuit Board
PIC	Picture Control
P/R	Play/Record
PSC	Pulse swallow control
PWT-SET	Power TV Set
PWV	ON/OFF Command to B+ Switching Circuit
REC	Recording
REF	Reference
RIS	Record Inhibit Switch
REW	Rewind
REG	Regulator
RS	Reverse Search
REC-2	Record Command for the Fine Editing Circuit
R-FS	Reel Drive Forward Search
R-P/R	Reel Drive Play/Record
S/AL	Stop After Load
SL	Slow
SLOK	Slow OK
S/P	Still/Pause
SS	Start Sensor
SRV-REC	Servo Record
$\overline{SS}$	Not Speed Search
S-STOP	Stop Command
STOK	Still OK
STW	Stop Watch
SENS	Sensor
STBY	Stand By
TM	Take up Motor
T-REC	Timer-Record
T.P	Test Point
TR	Transistor
TU-P	Tuner-Power
UL	Unload
VS	Voltage Synthesizer
V.SYNC	Vertical Sync
VCO	Voltage Controlled Oscillator
VXO	Variable Crystal Oscillator
W/D	White/Dark
X'OSC	Crystal Oscillator
Y/C	Luminance/Chrominance

CHIP PARTS REPLACEMENT

CHIP PARTS REPLACEMENT

Some resistors, shorting jumpers (0Ω resistor), ceramic capacitors, transistors and diodes are chip parts which are used for certain circuit elements. When replacing these parts, note the cautions as follows.

Cautions:

A. Use fine tipped, well insulated soldering pencil (iron) about 30 watts and the tweezers.
B. Melting the solder, remove the Chip Parts carefully not to tear off the copper foil of the printed circuit board.
C. Discard removed chips; do not reuse them.
D. Do not apply heat for more than 3 seconds to the new chip Parts.
E. Avoid using a rubbing stroke when soldering.
F. Take care not to scratch when soldering, or damage the Chip Parts.
G. Supplementary cementing is not required.

1 Removal of chip Parts (Resistors, capacitors, etc.)

A. Grasp the part with tweezers. Melting the solder at both side alternately, remove the one side of the part with a twisting motion.
B. Melt the solder at the other side and remove the part.

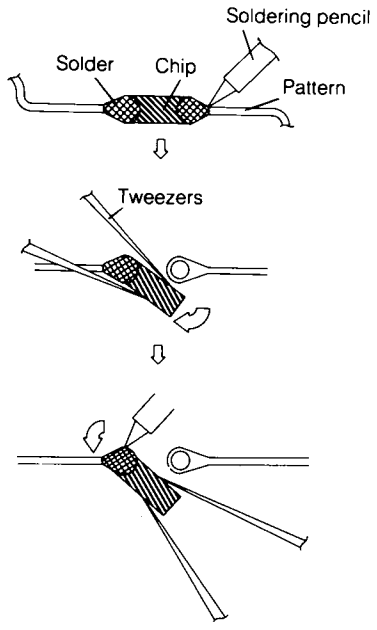


Fig. 1

2 Removal of Chip Parts (Transistors)

A. Melting the solder of one lead, Lift the side of that lead upward.
B. Simultaneously melt the solder of the two remaining leads and lift the part to remove.

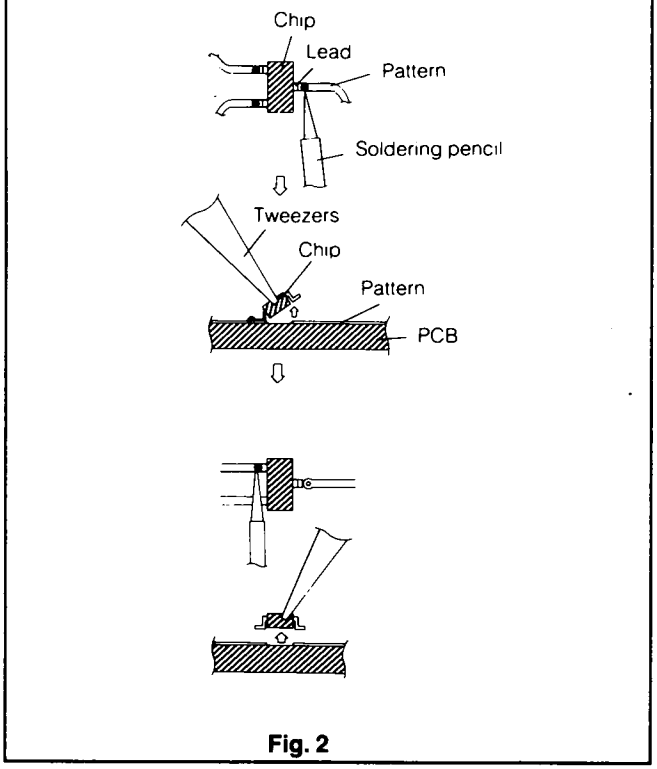


Fig. 2

3 Replacement

A. Presolder the contact points of the circuit pattern.
B. Press the part downward with tweezers and apply the soldering pencil as shown in the figure.

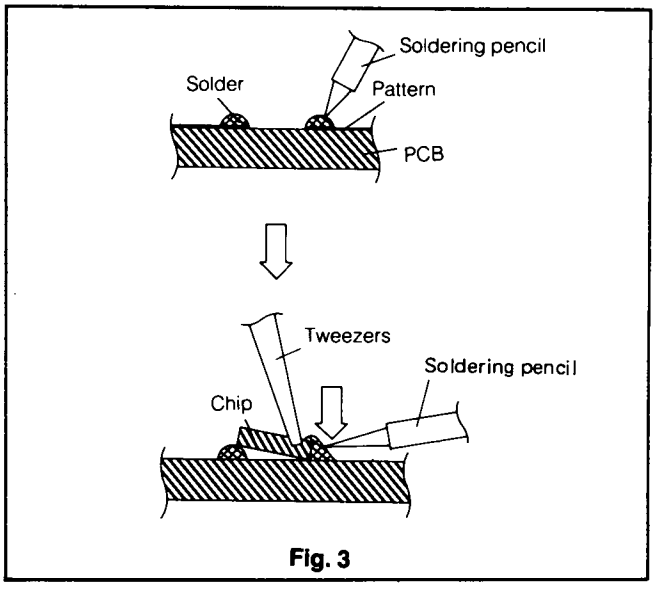
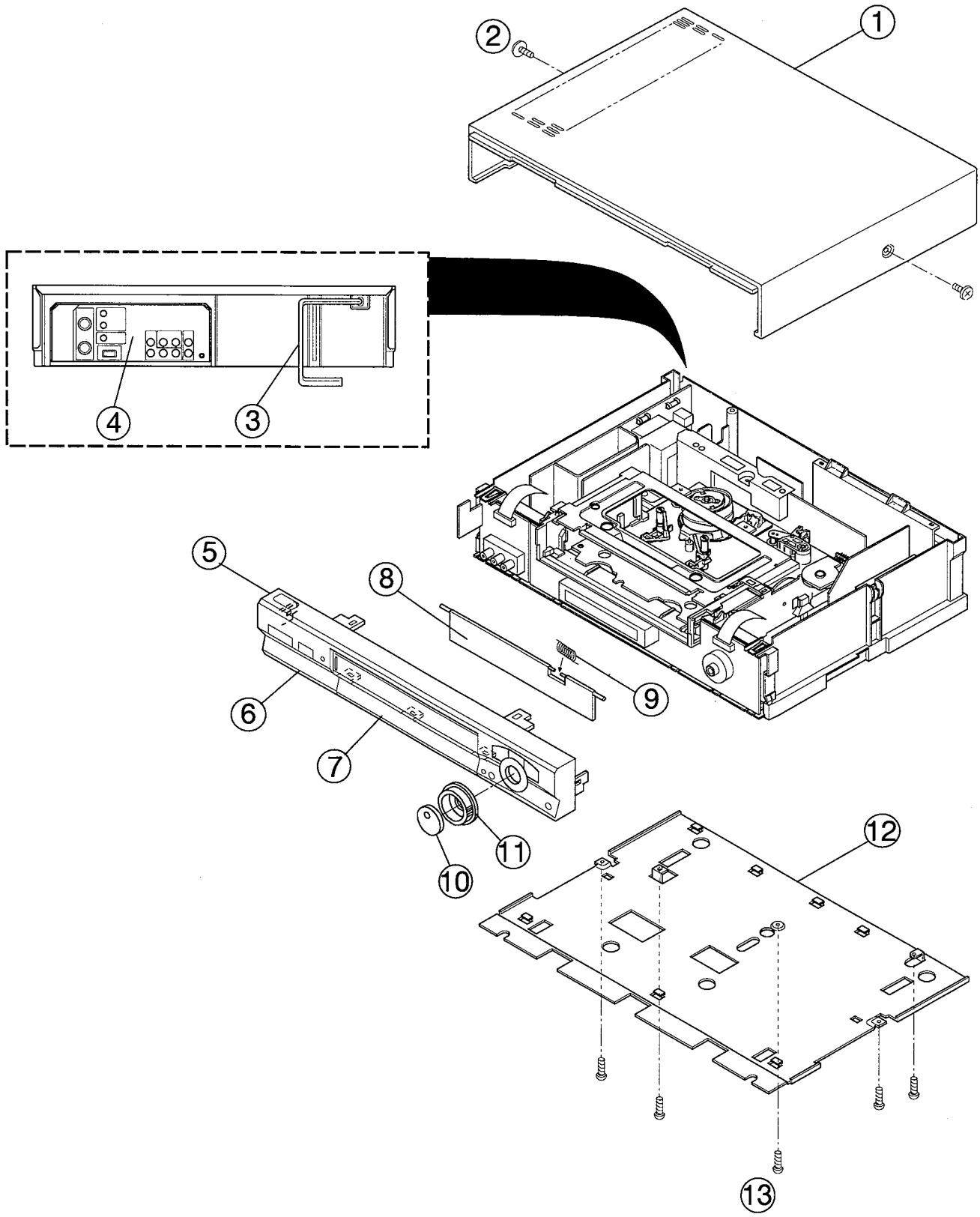


Fig. 3

PARTS LIST

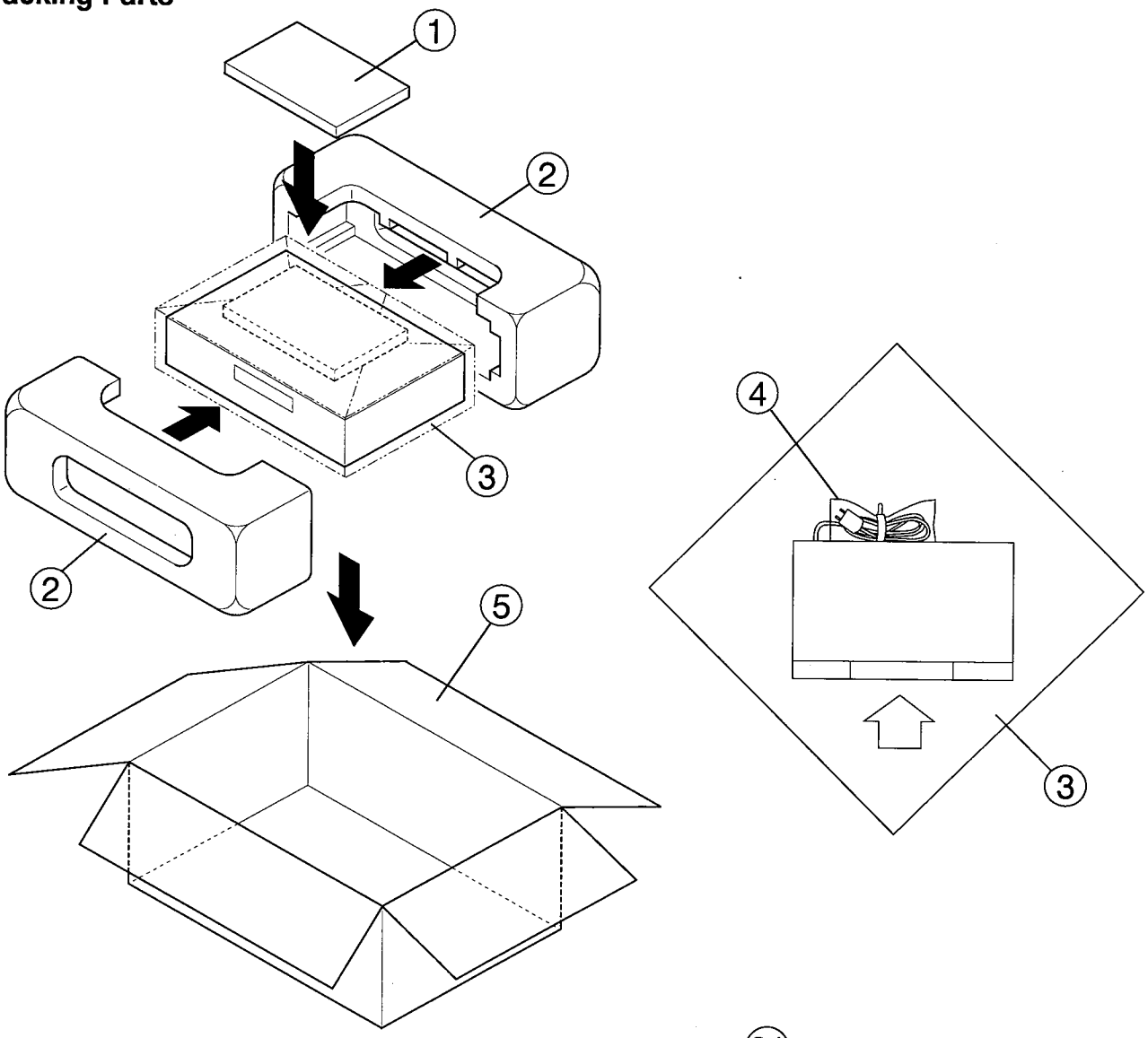
1. CABINET ASSEMBLY



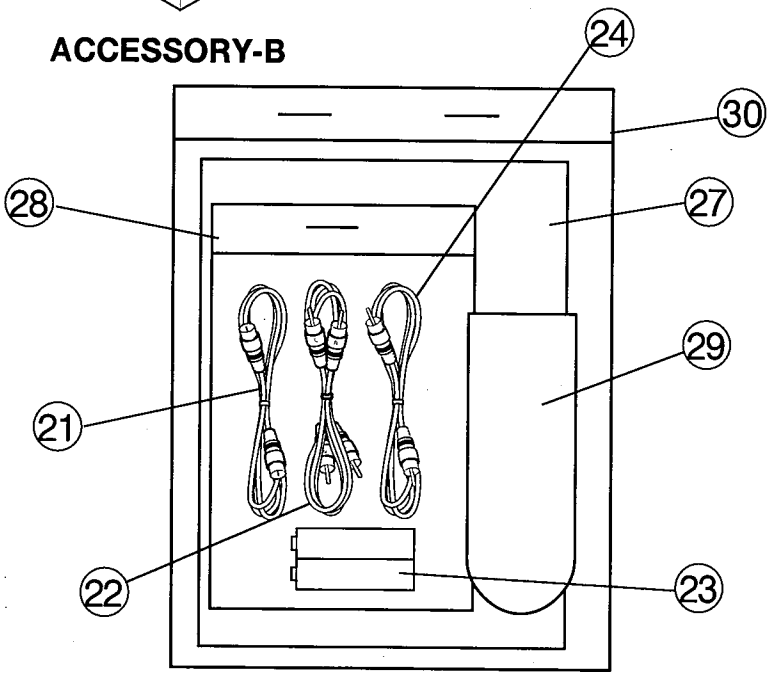
: Critical Component

ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION
		CABINET ASSEMBLY	
1	968C039003	TOP COVER ASSY	
2	669D223080	SCREW	3X10
3	246C092010	AC POWER CORD	
4	761B266060	ANTENNA COVER	[500, 500C]
4	761B266050	ANTENNA COVER	[550, 550C]
5	701B306060	FRONT UNIT	[500, 500C]
5	701B306040	FRONT UNIT	[550, 550C]
6	752C066060	DOOR PANEL ASSY	
6	752C066040	DOOR PANEL ASSY	
7	702B924010	TIMER PANEL	
8	702B897010	CASSETTE DOOR	
9	572D385010	SPRING F/L	
10	704C929010	JOG DIAL	
11	704C930010	SHUTTLE RING	
12	590A391010	BOTTOM PANEL	
13	669D220030	SCREW	3X10 46LA005

2. Packing Parts



ACCESSORY-B



ITEM NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
		PACKING PARTS		
1	----------	ACCESSORY		
2	803A372010	PACKING CUSHION		[500, 550]
3	831D190030	PACKING SHEET	800X800	[500, 550]
4	831D198030	PACKING BAG	400X100	[500, 550]
5	802B458070	PACKING CASE		[500]
5	802B458030	PACKING CASE		[550]
		ACCESSORY		
21	242D248020	RF CABLE	1.5m	
22	242C938010	PHONO CABLE	2P R&W 1.5m	
23	----------	BATTERY		
24	242C930040	PHONO CABLE	1P YEL 1.5m	
27	872C111010	INSTRUCTION BOOK		[500]
27	872C111020	INSTRUCTION BOOK	ENGLISH	[500C]
27	872C111030	INSTRUCTION BOOK	FRENCH	[500C]
27	872C111040	INSTRUCTION BOOK		[550]
27	872C111050	INSTRUCTION BOOK	ENGLISH	[550C]
27	872C111060	INSTRUCTION BOOK	FRENCH	[550C]
28	831D198020	PACKING BAG	256X10	[500, 550]
29	939P562030	REMOTE HAND UNIT		[500, 500C]
29	939P562020	REMOTE HAND UNIT		[550, 550C]
30	831D181020	PACKING BAG	375X250X0.06	[500, 550]

3. ELECTRICAL PARTS

INTEGRATED CIRCUITS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
IC201	272P221010	IC	BA7254S
IC250	272P220010	IC	TA7772P
IC2A0	272P598030	IC	LA7387A
IC2A1	272P463010	IC	LA7221
IC2G0	274P404010	IC	M35010-086SP
IC2H0	270P181010	IC	LC89960
IC310	272P234010	IC	LA7295
IC3A0	270P180010	IC	AN3967FBP
IC3A1	266P419010	IC	M5223P
IC3S0	272P353010	IC	CXA1124AS
IC4A0	274P318090	IC	MN67492MSW5
IC4A1	272P237010	IC	LA6324N
IC5A0	274P547040	IC	M38185ME-060FP
IC5A1	266P419020	IC	M5223FP
IC5A2	272P235010	IC	TA7291S
IC5A3	270P070010	IC	AT93C56-10PC [550, 550C]
IC5A3	274P597010	IC	AT93C46-10PC [500, 500C]
IC800	274P396030	IC	M37470M4-510SP[550, 550C]
IC8A0	274P548010	IC	TMP47C215AN-F801
IC900	272P237010	IC	LA6324N

TRANSISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
Q 151	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 208	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 210	260P807010	CHIP TRANSISTOR	UN2212
Q 211	260P807010	CHIP TRANSISTOR	UN2212
Q 212	260P807010	CHIP TRANSISTOR	UN2212
Q 213	260P807010	CHIP TRANSISTOR	UN2212
Q 255	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 260	260P807010	CHIP TRANSISTOR	UN2212
Q 261	260P807010	CHIP TRANSISTOR	UN2212
Q 262	260P807010	CHIP TRANSISTOR	UN2212
Q 270	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A0	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2A1	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A2	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2A3	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2A4	260P807010	CHIP TRANSISTOR	UN2212
Q 2A5	260P807010	CHIP TRANSISTOR	UN2212
Q 2A7	260P807010	CHIP TRANSISTOR	UN2212
Q 2A8	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2A9	260P806010	CHIP TRANSISTOR	DTA124EK
Q 2B0	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2B1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2B2	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2B4	260P807010	CHIP TRANSISTOR	UN2212
Q 2C0	260P560040	TRANSISTOR	2SA933S-S
Q 2F0	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2F1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2H2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 2H3	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 2L6	260P562040	TRANSISTOR	2SA952-K
Q 2R0	260P807010	CHIP TRANSISTOR	UN2212
Q 2T0	260P806010	CHIP TRANSISTOR	DTA124EK
Q 310	260P629060	TRANSISTOR	2SC3331-S
Q 3C1	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 3J1	260P807010	CHIP TRANSISTOR	UN2212
Q 3J2	260P807010	CHIP TRANSISTOR	UN2212
Q 3J3	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 3J4	260P806010	CHIP TRANSISTOR	DTA124EK
Q 3J5	260P807010	CHIP TRANSISTOR	UN2212
Q 3L1	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 3L2	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 3L3	260P806010	CHIP TRANSISTOR	DTA124EK
Q 3W1	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 3W2	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 3X1	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 3X2	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 3X3	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 3Z1	260P562040	TRANSISTOR	2SA952-K [550, 550C]
Q 4A0	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 4A3	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 4A4	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 4A7	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 4A8	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5A1	260P802020	CHIP TRANSISTOR	2SA1235-F
Q 5A2	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5A3	260P818030	CHIP TRANSISTOR	2SC2412KS
Q 5A7	260P804030	CHIP TRANSISTOR	2SC3052-G
Q 5C1	260P807010	CHIP TRANSISTOR	UN2212
Q 5C2	260P835020	CHIP TRANSISTOR	2SC2413K-P
Q 5C5	260P807010	CHIP TRANSISTOR	UN2212
Q 5D5	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5D6	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5E1	268P014030	PHOTO TRANSISTOR	PN205L-(NC).MI2
Q 5E2	268P014030	PHOTO TRANSISTOR	PN205L-(NC).MI2
Q 5E3	268P059010	PHOTO INTERRUPTER	RPI-244
Q 5E4	268P059010	PHOTO INTERRUPTER	RPI-244
Q 5E5	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5E6	260P806010	CHIP TRANSISTOR	DTA124EK
Q 5F0	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5G1	260P817030	CHIP TRANSISTOR	2SA1037K-S
Q 5T8	260P562040	TRANSISTOR	2SA952-K
Q 5U0	260P807010	CHIP TRANSISTOR	UN2212
Q 5U7	260P807010	CHIP TRANSISTOR	UN2212
Q 5X1	260P807010	CHIP TRANSISTOR	UN2212
Q 6A2	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 6A3	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 6A4	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 6A5	260P805030	CHIP TRANSISTOR	2SC3053-D
Q 802	260P562040	TRANSISTOR	2SA952-K [550, 550C]
Q 901	260C628010	TRANSISTOR	2SA1619A-Q
Q 902	260P630010	TRANSISTOR	2SD2012
Q 903	260P630010	TRANSISTOR	2SD2012
Q 904	260P630010	TRANSISTOR	2SD2012
Q 905	260P629060	TRANSISTOR	2SC3331-S
Q 907	260P586020	TRANSISTOR	2SB892-T
Q 911	260P632010	TRANSISTOR	DTC124ES

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION	
Q 920	260P559030	TRANSISTOR	2SC1740S-S	
DIODES				
D 202	264P568010	DIODE	1SS252	
D 250	264P568010	DIODE	1SS252	
D 251	264P568010	DIODE	1SS252	
D 260	264P483030	DIODE	RD4.7FB1	
D 2A1	264P568010	DIODE	1SS252	
D 2Q0	264P568010	DIODE	1SS252	
D 2X1	264P568010	DIODE	1SS252	
D 3J0	264P568010	DIODE	1SS252	
D 3L1	264P568010	DIODE	1SS252	
D 3L2	264P568010	DIODE	1SS252	
D 3L3	264P568010	DIODE	1SS252	
D 3L4	264P568010	DIODE	1SS252	
D 3T1	264P808010	CHIP DIODE	DAN202K	
D 3X1	264P568010	DIODE	1SS252	
D 3X2	264P826010	CHIP DIODE	DA204K	
D 3X3	264P390010	CHIP DIODE	1SS123	
D 4A0	264P568010	DIODE	1SS252	
D 4A1	264P808010	CHIP DIODE	DAN202K	
D 5A2	264P342070	DIODE	HZ4C2	
D 5A4	264P568010	DIODE	1SS252	
D 5B3	264P568010	DIODE	1SS252	
D 5B4	264P807010	DIODE	DA202K HVN21C	
D 5C0	264P808010	CHIP DIODE	DAN202K	
D 5D4	264P452030	DIODE	HZ5C3	
D 5E1	264P585010	LIGHT EMITTING DIODE	LN59L.MI	
D 5H0	264P104040	DIODE	HZ30-2	
D 5U0	264P808010	CHIP DIODE	DAN202K	
D 5V0	264P486060	DIODE	RD9.1FB3	
D 5X0	264P568010	DIODE	1SS252	
D 5X1	264P808010	CHIP DIODE	DAN202K	
D 800	264P634010	LIGHT EMITTING DIODE	SLR-932A-7	[550, 550C]
D 8A0	264P568010	DIODE	1SS252	
D 8A1	264P568010	DIODE	1SS252	
D 8A2	264P568010	DIODE	1SS252	
D 8A3	264P568010	DIODE	1SS252	
D 8A5	264P568010	DIODE	1SS252	[550, 550C]
D 8B1	264P568010	DIODE	1SS252	
D 8B2	264P568010	DIODE	1SS252	
D 8B3	264P568010	DIODE	1SS252	
D 8B4	264P568010	DIODE	1SS252	
D 8B9	264P568010	DIODE	1SS252	
D 8C0	264P568010	DIODE	1SS252	
D 8C1	264P568010	DIODE	1SS252	
D 8C2	264P568010	DIODE	1SS252	
D 8C3	264P568010	DIODE	1SS252	
D 901	264P101050	DIODE	RM 1B	
D 902	264P101050	DIODE	RM 1B	
D 903	264P101050	DIODE	RM 1B	
D 904	264P101050	DIODE	RM 1B	
D 905	264P101050	DIODE	RM 1B	
D 906	264P101050	DIODE	RM 1B	
D 907	264P101050	DIODE	RM 1B	
D 908	264P101050	DIODE	RM 1B	
D 909	264P500020	DIODE	EM01Z	
D 910	264P500020	DIODE	EM01Z	
D 911	264P104040	DIODE	HZ30-2	
D 914	264P500020	DIODE	EM01Z	
D 915	264P568010	DIODE	1SS252	
FILTERS				
CF801	299P116010	CERAMIC RESONATOR	KBR-4.0KES	[550, 550C]
CF8A0	299P118070	CERAMIC RESONATOR	CST8.00MTW	
LPF2H0	409P827010	LOW PASS FILTER	TYV-261	
COILS				
L 01	325C120020	PEAKING COIL	1.2μH-M/K	
L 03	325C121030	PEAKING COIL	10μH-K	
L 201	325C162050	PEAKING COIL	100μH-K	
L 206	325C166090	PEAKING COIL	33μH-J	
L 210	325C166070	PEAKING COIL	22μH-J	
L 211	325C165090	PEAKING COIL	4.7μH-J	
L 213	325C162050	PEAKING COIL	100μH-K	
L 217	325C166080	PEAKING COIL	27μH-J	
L 218	325C168000	PEAKING COIL	270μH-J	
L 219	325C167040	PEAKING COIL	82μH-J	
L 220	325C167030	PEAKING COIL	68μH-J	
L 250	325C122050	PEAKING COIL	100μH-K	
L 2A0	325C167080	PEAKING COIL	180μH-J	
L 2A1	325C122050	PEAKING COIL	100μH-K	
L 2B1	325C166090	PEAKING COIL	33μH-J	
L 2B2	325C167000	PEAKING COIL	39μH-J	
L 2B3	325C166070	PEAKING COIL	22μH-J	
L 2B4	325C167090	PEAKING COIL	220μH-J	
L 2G0	325C167050	PEAKING COIL	100μH-J	
L 2G1	325C122050	PEAKING COIL	100μH-K	
L 2G2	325C166050	PEAKING COIL	15μH-J	
L 2G3	325C160030	PEAKING COIL	1.5μH-K	
L 2H0	325C102050	PEAKING COIL	100μH-K	
L 2L0	325C162050	PEAKING COIL	100μH-K	
L 310	321C113070	RF COIL	1000μH-K	
L 311	321C114080	RF COIL	8200μH-J	
L 3G1	321C114080	RF COIL	8200μH-J	
L 3S0	325C167050	PEAKING COIL	100μH-J	
L 5A0	325C122050	PEAKING COIL	100μH-K	
L 5A2	325C121070	PEAKING COIL	22μH-K	
L 6A2	325C167070	PEAKING COIL	150μH-J	
L 6B0	325C112010	PEAKING COIL	47μH-K	
TRANSFORMERS				
T 310	409P423030	AUDIO BIAS OSC	409P42301/2	
T 901	350P575040	TRANS POWER	120V	
VARIABLE RESISTORS				
VR103	127C380050	VR SEMIFIXED	1/5W B2kΩ-M	
VR202	127C480040	VR SEMIFIXED	1/5W B1kΩ+-25%	
VR203	127C480080	VR SEMIFIXED	1/5W B10kΩ+-25%	
VR253	127C480030	VR SEMIFIXED	1/5W B500Ω+-25%	

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
VR2A0	127C381010	VR SEMIFIXED	1/5W B50kΩ-M
VR2A1	127C380080	VR SEMIFIXED	1/5W B10kΩ-M
VR2A2	127C390090	VR SEMIFIXED	1/5W B20kΩ-M
VR2A5	127C381000	VR SEMIFIXED	1/5W B30kΩ-M
VR2K0	127C380060	VR SEMIFIXED	1/5W B3kΩ-M
VR2M0	127C380030	VR SEMIFIXED	1/5W B500Ω-M
VR310	127C481020	VR SEMIFIXED	1/5W B100kΩ+-25%
VR3A3	127C490090	VR SEMIFIXED	1/5W B20Ω+-25%
VR3E0	127C490080	VR SEMIFIXED	1/5W B10kΩ+-25%
VR3E3	127C490080	VR SEMIFIXED	1/5W B10kΩ+-25%
VR3S0	127C390090	VR SEMIFIXED	1/5W B20kΩ-M
VR3S1	127C391010	VR SEMIFIXED	1/5W B50kΩ-M
VR3S2	127C390070	VR SEMIFIXED	1/5W B5kΩ-M
VR3S3	127C390080	VR SEMIFIXED	1/5W B10kΩ-M
VR5A0	127C381020	VR SEMIFIXED	1/5W B100kΩ-M

RESISTORS

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 01	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 05	103P409050	CHIP RESISTOR	1/10W 0Ω
R 153	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 154	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 155	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 206	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 207	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 208	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 209	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 210	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 211	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 216	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 217	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 218	103P472040	CHIP RESISTOR	1/10W 910Ω-F
R 219	103P472040	CHIP RESISTOR	1/10W 910Ω-F
R 220	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 222	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 227	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 230	103P472080	CHIP RESISTOR	1/10W 1.3kΩ-F
R 231	103P472090	CHIP RESISTOR	1/10W 1.5K
R 232	103P472010	CHIP RESISTOR	1/10W 680Ω-F
R 233	103P472040	CHIP RESISTOR	1/10W 910Ω-F
R 235	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 240	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 241	103P470040	CHIP METAL	1/10W 130Ω-F
R 242	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 243	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 244	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 245	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 246	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 250	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 252	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 254	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 255	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 257	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 265	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 266	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 267	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 268	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 270	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 271	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 272	103P477050	CHIP RESISTOR	1/10W 120K
R 273	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 274	103P476070	CHIP RESISTOR	1/10W 56kΩ-F
R 275	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 277	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 278	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 279	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 280	103P408090	CHIP RESISTOR	1/10W 5.6Ω-K
R 281	103P409050	CHIP RESISTOR	1/10W 0Ω
R 286	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 2A0	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2A1	103P409050	CHIP RESISTOR	1/10W 0Ω
R 2A2	103P473080	CHIP RESISTOR	1/10W 3.6kΩ-F
R 2A6	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 2B1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 2B2	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 2B4	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2B6	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 2B7	103P474000	CHIP RESISTOR	1/10W 4.3kΩ-F
R 2C0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2C2	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 2C3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2C4	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2C5	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2C6	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 2C7	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 2C8	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2C9	103P473040	CHIP RESISTOR	1/10W 2.4kΩ-F
R 2D0	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2D1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2D2	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 2D3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2D4	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 2E5	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 2G3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2G4	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 2G5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2G6	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 2H0	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 2H1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2H5	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 2H7	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 2H8	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2J0	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2J1	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 2J2	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 2M5	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 2M6	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 2P1	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 2T2	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 2T3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 310	103P400010	CHIP RESISTOR	1/10W 10Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 311	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 312	103P401080	CHIP RESISTOR	1/10W 270Ω-J
R 313	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 315	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 316	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 317	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 318	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 319	103P475040	CHIP RESISTOR	1/10W 16kΩ-F
R 320	103P472040	CHIP RESISTOR	1/10W 910Ω-F
R 325	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 326	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 327	103P473020	CHIP RESISTOR	1/10W 2kΩ-F
R 329	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 330	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 331	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 332	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 334	103P474020	CHIP RESISTOR	1/10W 5.1kΩ-F
R 340	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 352	103P474010	CHIP RESISTOR	1/10W 4.7kΩ-F
R 353	103P408080	CHIP RESISTOR	1/10W 4.7K
R 3A8	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 3A9	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3B0	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3B1	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3B5	103P405060	CHIP RESISTOR	1/10W 390kΩ-J
R 3B7	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3C2	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 3C3	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3C4	103P471080	CHIP RESISTOR	1/10W 510Ω-F
R 3C5	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3D0	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3D1	103P476020	CHIP RESISTOR	1/10W 36kΩ-F
R 3D2	103P475010	CHIP RESISTOR	1/10W 12kΩ-F
R 3D3	103P476020	CHIP RESISTOR	1/10W 36kΩ-F
R 3D4	103P475010	CHIP RESISTOR	1/10W 12kΩ-F
R 3E0	103P475070	CHIP RESISTOR	1/10W 22kΩ-F
R 3G0	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3G1	103P479000	CHIP METAL	1/10W 510kΩ-F
R 3G2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3G3	103P402030	CHIP RESISTOR	1/10W 680Ω-J
R 3G5	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3G8	103P401090	CHIP RESISTOR	1/10W 330Ω-J
R 3G9	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3J1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3J2	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3J3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3J4	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 3J5	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3J6	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3J7	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 3J8	103P402000	CHIP RESISTOR	1/10W 390Ω-J
R 3L0	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 3L1	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 3L2	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3L3	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3L4	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3L5	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3L6	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3L7	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 3L8	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 3L9	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3M1	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 3M2	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 3N5	103P476060	CHIP METAL	1/10W 51kΩ-F
R 3N7	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 3P2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3S0	103P477030	CHIP RESISTOR	1/10W 100kΩ-F
R 3S4	103P476050	CHIP RESISTOR	1/10W 47kΩ-F
R 3S5	103P476050	CHIP RESISTOR	1/10W 47kΩ-F
R 3S6	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3S7	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 3S8	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 3S9	103P479000	CHIP METAL	1/10W 510kΩ-F
R 3T0	103P476040	CHIP RESISTOR	1/10W 43kΩ-F
R 3T1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 3T2	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 3T3	103P477000	CHIP RESISTOR	1/10W 75kΩ-F
R 3T5	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 3T7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3T8	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3W1	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3W2	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 3W3	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 3W4	103P471020	CHIP RESISTOR	1/10W 300Ω-F
R 3W6	103P401030	CHIP RESISTOR	1/10W 100Ω-J
R 3W7	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 3X2	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 3X3	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 3X4	103P472050	CHIP RESISTOR	1/10W 1kΩ-F
R 3X5	103P473060	CHIP RESISTOR	1/10W 3kΩ-F
R 3X6	103P474090	CHIP RESISTOR	1/10W 10kΩ-F
R 3X8	103P402020	CHIP RESISTOR	1/10W 560Ω-J
R 3X9	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 3Z3	103P403070	CHIP RESISTOR	1/10W 10kΩ-J [550, 550C]
R 4A0	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4A5	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4A9	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4B0	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 4B2	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4B4	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4B5	103P405050	CHIP RESISTOR	1/10W 330kΩ-J
R 4B6	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 4B7	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 4B8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4B9	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 4C0	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 4C1	103P405010	CHIP RESISTOR	1/10W 150kΩ-J
R 4C3	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 4C5	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 4C8	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J

: Critical Components

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 4C9	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 4D0	103P405000	CHIP RESISTOR	1/10W 120kΩ-J
R 4D1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 4D2	103P404000	CHIP RESISTOR	1/10W 18kΩ-J
R 4D3	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 4D4	103P406000	CHIP RESISTOR	1/10W 820K
R 4D5	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 4D8	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 4D9	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 4E1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 4E2	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E3	103P472070	CHIP RESISTOR	1/10W 1.2kΩ-F
R 4E6	103P404060	CHIP RESISTOR	1/10W 56kΩ-J
R 4E7	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 4E9	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 4F1	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 4F2	103P402060	CHIP RESISTOR	1/10W 1.2kΩ-J
R 4F3	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 4F5	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 4L0	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 4L1	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 4L7	103P409050	CHIP RESISTOR	1/10W 0Ω
R 4Z4	103P405020	CHIP RESISTOR	1/10W 180kΩ-J
R 5A5	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 5A6	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5A7	103P403000	CHIP RESISTOR	1/10W 2.7kΩ-J
R 5A8	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5A9	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 5B0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5B3	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5B4	103P406090	CHIP METAL	1/10W 4.7MΩ-K
R 5B5	103P406090	CHIP METAL	1/10W 4.7MΩ-K
R 5D2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5E0	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 5F0	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5F1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 5G3	103P403090	CHIP RESISTOR	1/10W 15kΩ-J
R 5G9	103P401010	CHIP RESISTOR	1/10W 68Ω-J
R 5H0	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 5H3	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5H7	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5K1	103P478020	CHIP RESISTOR	1/10W 240kΩ-F
R 5K2	103P477050	CHIP RESISTOR	1/10W 120K
R 5K3	103P476080	CHIP RESISTOR	1/10W 62kΩ-F
R 5K4	103P476000	CHIP RESISTOR	1/10W 30kΩ-F
R 5K7	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5L0	103P404010	CHIP RESISTOR	1/10W 22kΩ-J
R 5L1	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 5L2	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 5M1	103P402070	CHIP RESISTOR	1/10W 1.5kΩ-J
R 5M2	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5M7	103P403020	CHIP RESISTOR	1/10W 3.9kΩ-J
R 5M8	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 5M9	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5N2	103P401030	CHIP RESISTOR	1/10W 100Ω-J

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
R 5N3	103P403030	CHIP RESISTOR	1/10W 4.7kΩ-J
R 5N4	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5N9	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5P0	103P403010	CHIP RESISTOR	1/10W 3.3kΩ-J
R 5P9	103P404070	CHIP RESISTOR	1/10W 68kΩ-J
R 5R0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5R1	103P404080	CHIP RESISTOR	1/10W 82kΩ-J
R 5R3	103P405030	CHIP RESISTOR	1/10W 220kΩ-J
R 5R4	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 5R5	103P405070	CHIP RESISTOR	1/10W 470kΩ-J
R 5R6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5U0	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 5U1	103P402090	CHIP RESISTOR	1/10W 2.2kΩ-J
R 5V6	103P403050	CHIP RESISTOR	1/10W 6.8kΩ-J
R 5W6	103P475010	CHIP RESISTOR	1/10W 12kΩ-F
R 5W9	103P401050	CHIP RESISTOR	1/10W 150Ω-J
R 5X2	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 5X5	103P404030	CHIP RESISTOR	1/10W 33kΩ-J
R 5X7	103P404090	CHIP RESISTOR	1/10W 100kΩ-J
R 5X8	103P404040	CHIP RESISTOR	1/10W 39kΩ-J
R 5Y0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5Y6	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5Z1	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 5Z3	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 5Z4	103P403080	CHIP RESISTOR	1/10W 12kΩ-J
R 6A1	103P401070	CHIP RESISTOR	1/10W 220Ω-J
R 6A2	103P406010	CHIP RESISTOR	1/10W 1MΩ-J
R 6A3	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 6A7	103P403060	CHIP RESISTOR	1/10W 8.2kΩ-J
R 6A8	103P473080	CHIP RESISTOR	1/10W 3.6kΩ-F
R 6B0	103P403070	CHIP RESISTOR	1/10W 10kΩ-J
R 6B1	103P403040	CHIP RESISTOR	1/10W 5.6kΩ-J
R 6B2	103P402040	CHIP RESISTOR	1/10W 820Ω-J
R 6B6	103P402080	CHIP RESISTOR	1/10W 1.8kΩ-J
R 6B7	103P401060	CHIP RESISTOR	1/10W 180Ω-J
R 6B8	103P404020	CHIP RESISTOR	1/10W 27kΩ-J
R 6B9	103P404050	CHIP RESISTOR	1/10W 47kΩ-J
R 6D0	103P402010	CHIP RESISTOR	1/10W 470Ω-J
R 6X1	103P402050	CHIP RESISTOR	1/10W 1kΩ-J
R 901	109C010050	COMPOSITION	1/2W 2.2MΩ-K (UL)
RJ 01	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 02	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 03	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 04	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 05	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 06	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 07	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 08	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 09	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 10	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 11	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 12	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 13	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 14	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 15	103P409050	CHIP RESISTOR	1/10W 0Ω

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
RJ 16	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 17	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 18	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 19	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 20	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 21	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 40	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ 41	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ301	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ302	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ303	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ305	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ306	103P409050	CHIP RESISTOR	1/10W 0Ω
RJ307	103P409050	CHIP RESISTOR	1/10W 0Ω

CAPACITORS AND TRIMMERS

C 154	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 202	154P321080	CHIP CAPACITOR	SL50V 18pF-J
C 207	154P321060	CHIP CAPACITOR	SL50V 15pF-J
C 209	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 210	141P134010	CHIP CAPACITOR	F50V 0.047M
C 211	141P134010	CHIP CAPACITOR	F50V 0.047M
C 215	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 216	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 217	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 221	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 222	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 227	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 231	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 232	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 233	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 234	154P321080	CHIP CAPACITOR	SL50V 18pF-J
C 235	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 236	154P321080	CHIP CAPACITOR	SL50V 18pF-J
C 240	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 241	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 242	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 243	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 244	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 245	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 246	141P135070	CHIP CAPACITOR	F16V 1μF-Z
C 247	154P322020	CHIP CAPACITOR	SL50V 27pF-J
C 248	154P324060	CHIP CAPACITOR	SL50V 270pF-J
C 249	154P324020	CHIP CAPACITOR	SL50V 180pF-J
C 250	154P323020	CHIP CAPACITOR	SL50V 68pF-J
C 251	141P131020	CHIP CAPACITOR	B50V 1800pF-K
C 252	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 254	154P325040	CHIP CAPACITOR	SL50V 560pF-J
C 263	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 270	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 271	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 275	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 276	141P130050	CHIP CAPACITOR	B50V 470pF-K
C 291	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 293	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2A8	154P321040	CHIP CAPACITOR	SL50V 12pF-J
C 2A9	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2B0	154P321020	CHIP CAPACITOR	SL50V 10pF-C
C 2B2	154P324060	CHIP CAPACITOR	SL50V 270pF-J
C 2B3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2B4	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 2B8	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 2C2	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2C3	154P322040	CHIP CAPACITOR	SL50V 33pF-J
C 2C5	154P321020	CHIP CAPACITOR	SL50V 10pF-C
C 2C6	154P321020	CHIP CAPACITOR	SL50V 10pF-C
C 2C7	154P325000	CHIP CAPACITOR	SL50V 390pF-J
C 2C8	154P324040	CHIP CAPACITOR	SL50V 220pF-J
C 2D1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2D3	154P322060	CHIP CAPACITOR	SL50V 39pF-J
C 2D6	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 2F0	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2G0	141P131010	CHIP CAPACITOR	B50V 1500pF
C 2G1	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 2G2	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 2G7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2H2	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 2H3	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 2H6	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2H9	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 2J0	154P323080	CHIP CAPACITOR	SL50V 120pF-J
C 2J2	154P321060	CHIP CAPACITOR	SL50V 15pF-J
C 310	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 311	141P131000	CHIP CAPACITOR	B50V 1200pF
C 318	141P131040	CHIP CAPACITOR	B50V 2700pF-K
C 328	141P130060	CHIP CAPACITOR	B50V 560pF-K
C 331	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3A8	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3B5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3B6	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 3B7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3B8	154P324060	CHIP CAPACITOR	SL50V 270pF-J
C 3C9	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3G7	141P132030	CHIP CAPACITOR	B50V 0.015M
C 3P1	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 3P2	141P139030	CHIP CAPACITOR	B25V 0.1μF-K
C 3P3	141P139010	CHIP CAPACITOR	B25V 0.068μ-K
C 3P4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3T7	141P131080	CHIP CAPACITOR	B50V 5600pF-K
C 3T8	141P135080	CHIP CAPACITOR	F25V 0.1μF-Z
C 3W4	141P133090	CHIP CAPACITOR	F50V 0.022M
C 3W5	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 3W7	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4A3	141P137070	CHIP CAPACITOR	B25V 0.039μF-K
C 4A5	141P132010	CHIP CAPACITOR	B50V 0.01μF-K
C 4A9	141P131060	CHIP CAPACITOR	B50V 3900pF-K
C 4B3	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4B4	141P133080	CHIP CAPACITOR	F50V 0.01μF-Z
C 4B6	141P131010	CHIP CAPACITOR	B50V 1500pF
C 4C1	141P131050	CHIP CAPACITOR	B50V 3300pF-K

: Critical Components

SYMBOL NO.	PARTS NO.	PARTS NAME	DESCRIPTION
C 4C2	141P139030	CHIP CAPACITOR	B25V 0.1 μ F-K
C 4C3	141P139010	CHIP CAPACITOR	B25V 0.068 μ -K
C 4C4	141P131080	CHIP CAPACITOR	B50V 5600pF-K
C 4C5	141P131080	CHIP CAPACITOR	B50V 5600pF-K
C 4C6	141P139000	CHIP CAPACITOR	B25V 0.056 μ F-K
C 4C9	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 4L0	154P334010	CHIP CAPACITOR	CH50V 180pF-J
C 4L1	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 5A0	189P197020	C-ELE-DOUBLE-LAYER	AC310G473Z5R5
C 5A5	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 5A6	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5C0	141P130090	CHIP CAPACITOR	B50V 1000pF-K
C 5C1	154P331050	CHIP CAPACITOR	CH50V 15pF-J
C 5C2	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 5C3	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 5C4	154P331010	CHIP CAPACITOR	CH50V 10pF-C
C 5D1	154P331070	CHIP CAPACITOR	CH50V 18pF-J
C 5D2	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 5D3	141P131090	CHIP CAPACITOR	B50V 6800pF-K
C 5F1	154P333010	CHIP CAPACITOR	CH50V 68pF-J
C 5F6	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 5F7	141P133090	CHIP CAPACITOR	F50V 0.022M
C 5G2	154P325020	CHIP CAPACITOR	SL50V 470pF
C 5G3	141P132010	CHIP CAPACITOR	B50V 0.01 μ F-K
C 5G4	141P132010	CHIP CAPACITOR	B50V 0.01 μ F-K
C 5L5	141P131030	CHIP CAPACITOR	B50V 2200pF-K
C 5W0	141P133090	CHIP CAPACITOR	F50V 0.022M
C 6A1	141P133090	CHIP CAPACITOR	F50V 0.022M
C 6A7	141P139030	CHIP CAPACITOR	B25V 0.1 μ F-K
C 6B0	141P133080	CHIP CAPACITOR	F50V 0.01 μ F-Z
C 6B2	141P133090	CHIP CAPACITOR	F50V 0.022M
C 6B3	154P322080	CHIP CAPACITOR	SL50V 47pF-J
C 6B7	154P323060	CHIP CAPACITOR	SL50V 100pF-J
C 6B8	154P323040	CHIP CAPACITOR	SL50V 82pF-J
C 6B9	154P324060	CHIP CAPACITOR	SL50V 270pF-J
C 6D1	154P325000	CHIP CAPACITOR	SL50V 390pF-J

SWITCHES

S 01	431C102010	SLIDE SWITCH	VIDEO CHANNEL
S 2A1	432P166010	KEY BOARD SWITCH	RESET
S 5A0	439P033010	SWITCH MPU10101MMB0	RIS
S 802	432P089040	KEY BOARD SWITCH	POWER
S 803	432P089040	KEY BOARD SWITCH	EJECT
S 8A0	432P089040	KEY BOARD SWITCH	ONE KEY PROGRAM
S 8A1	432P089040	KEY BOARD SWITCH	STOP
S 8A2	432P089040	KEY BOARD SWITCH	PAUSE
S 8A3	432P089040	KEY BOARD SWITCH	REC/OTR
S 8A4	432P089040	KEY BOARD SWITCH	PERFETAPE
S 8A5	432P089040	KEY BOARD SWITCH	PLAY
S 8B2	432P089040	KEY BOARD SWITCH	DIS-P
S 8B3	439P023030	SWITCH	SRGPHJ065A

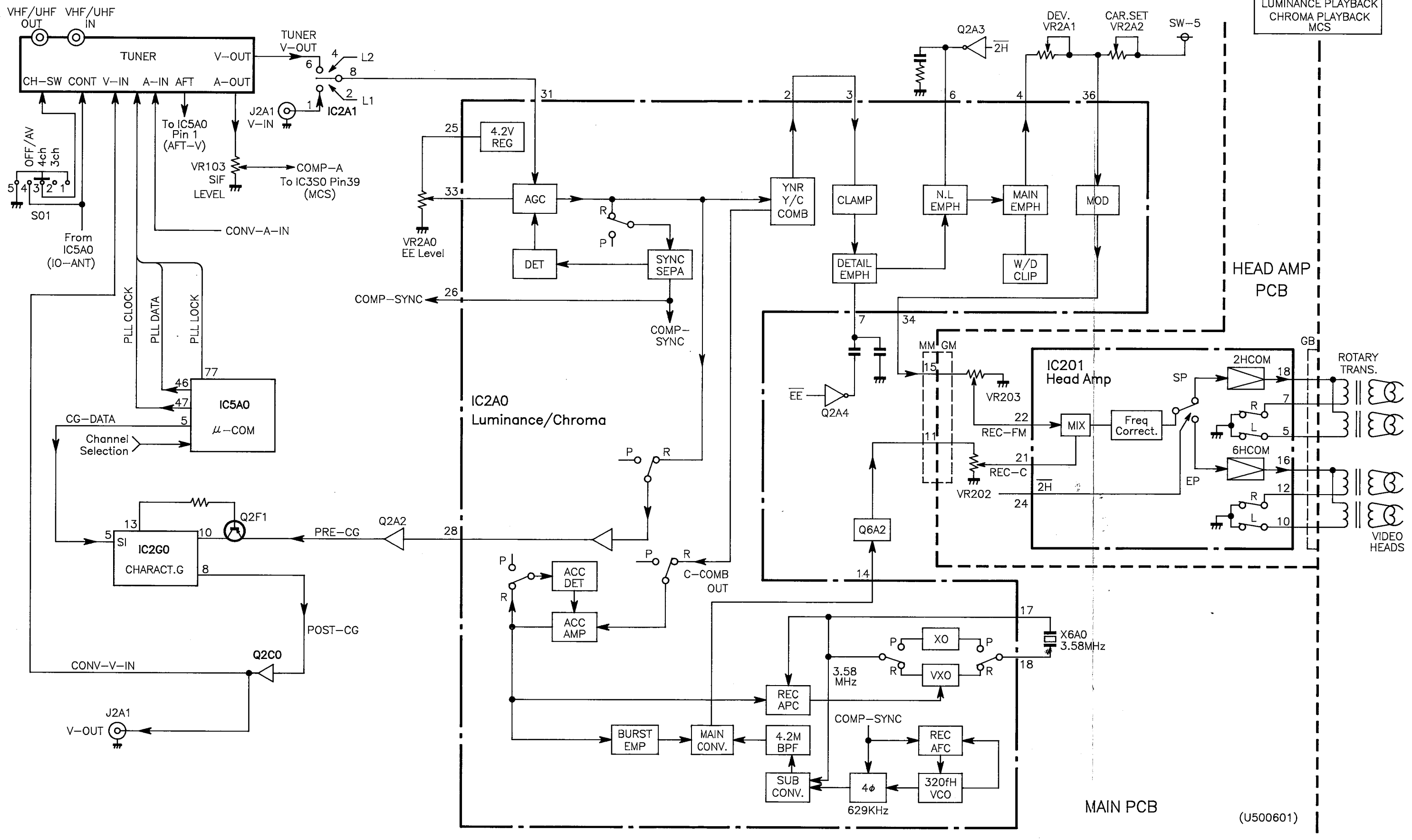
MISCELLANEOUS

	243C125010	CARD LEAD	9P L=50 REV
F 901	283D060040	FUSE	S630MA
F 902	283D038020	FUSE	S2.5A
J 2A1	440C220050	PIN JACK BOARD	4PIN HRM23
J 2B0	440C220090	PIN JACK BOARD	4P
J 3A0	451C129020	JACK MICROPHONE	[550, 550C]
J 3A1	451C129020	JACK MICROPHONE	
J 3A2	451C129020	JACK MICROPHONE	
J 801	440C267010	PIN JACK BOARD	HV-F70
MA 0A	243C011070	CARD LEAD	13P L140(MV-HV) [500, 500C]
MA 0A	243C021050	CARD LEAD	19P L148(MA-0A) [550, 550C]
MK TK	243C066070	CARD LEAD	11P L190(CD-TD)
MZ PZ	243C066060	CARD LEAD	11P L120(CE-SE)
T 370	460P060060	A/C HEAD	
T 371	460P055040	FULL ERASE HEAD	
TU 01	295P398020	TUNER	ENG-56210G
V 8A0	253P113010	TUBE FLUOR	BJ269GK
X 2G0	285P123010	CRYSTAL RESONATOR	14.318MHz
X 5A0	285P235010	CRYSTAL RESONATOR	8.3886MHz
X 5A1	285P054010	CRYSTAL RESONATOR	32.768kHz
X 6A0	285P147010	CRYSTAL RESONATOR	3.5795MHz
Z 8A0	939P481010	PREAMP UNIT	HC-477

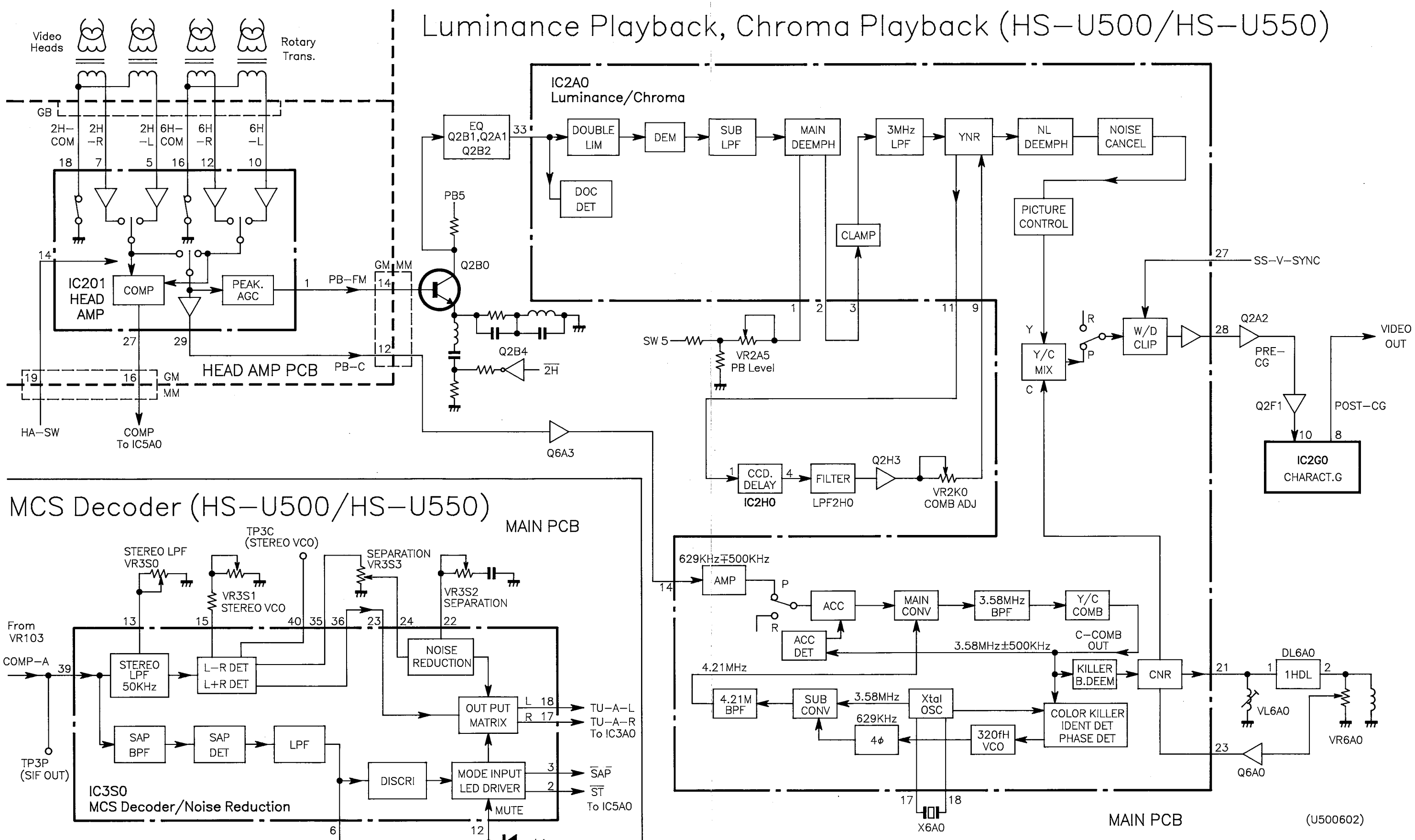
PRINTED CIRCUIT BOARD ASSY'S

927B455005	HA/AUDIO PCB ASSY	
927B783005	HIFI PCB ASSY	[500, 500C]
927B783004	HIFI PCB ASSY	[550, 550C]
928C862001	LED PCB ASSY	[550, 550C]
927B793003	MAIN PCB ASSY	[500, 500C]
927B793002	MAIN PCB ASSY	[550, 550C]
928D206003	OPE PCB ASSY	[500, 500C]
928D206002	OPE PCB ASSY	[550, 550C]
927B795002	POWER PCB ASSY	
928D205003	TIMER PCB ASSY	[500, 500C]
928D205002	TIMER PCB ASSY	[550, 550C]

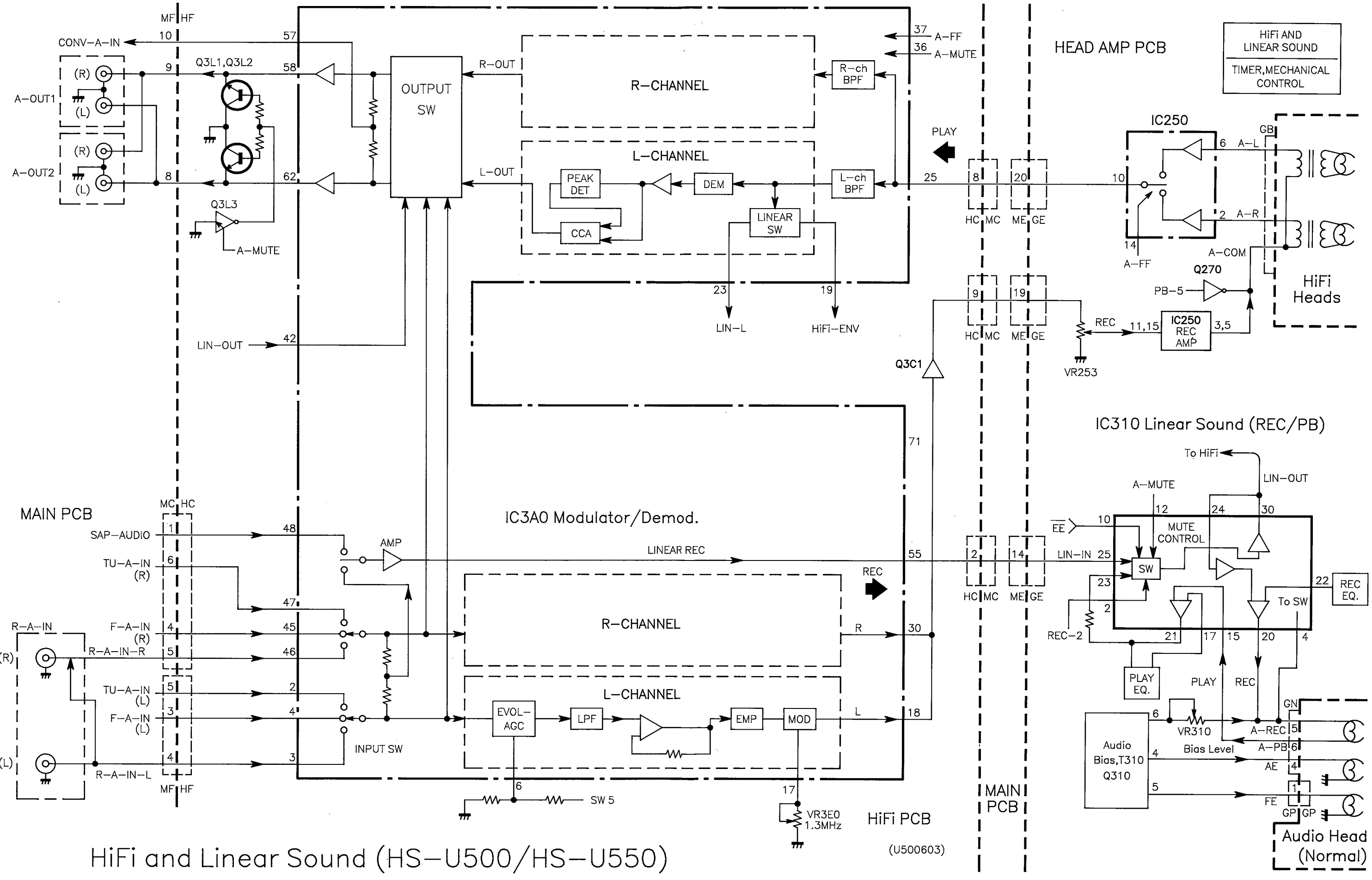
Luminance Record, Chroma Record (HS–U500/HS–U550)



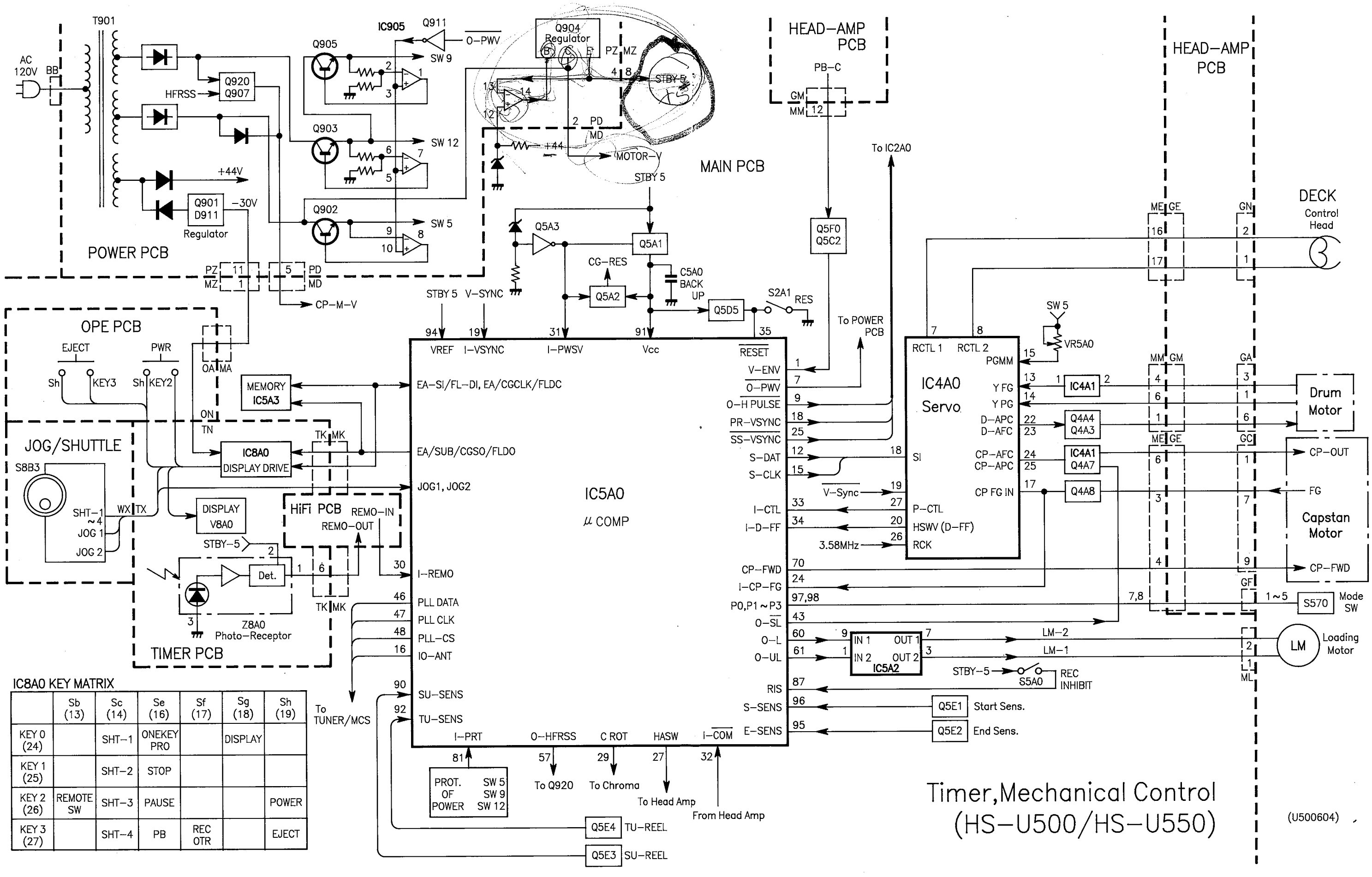
Luminance Playback, Chroma Playback (HS–U500/HS–U550)



MCS Decoder (HS–U500/HS–U550)



HiFi and Linear Sound (HS–U500/HS–U550)



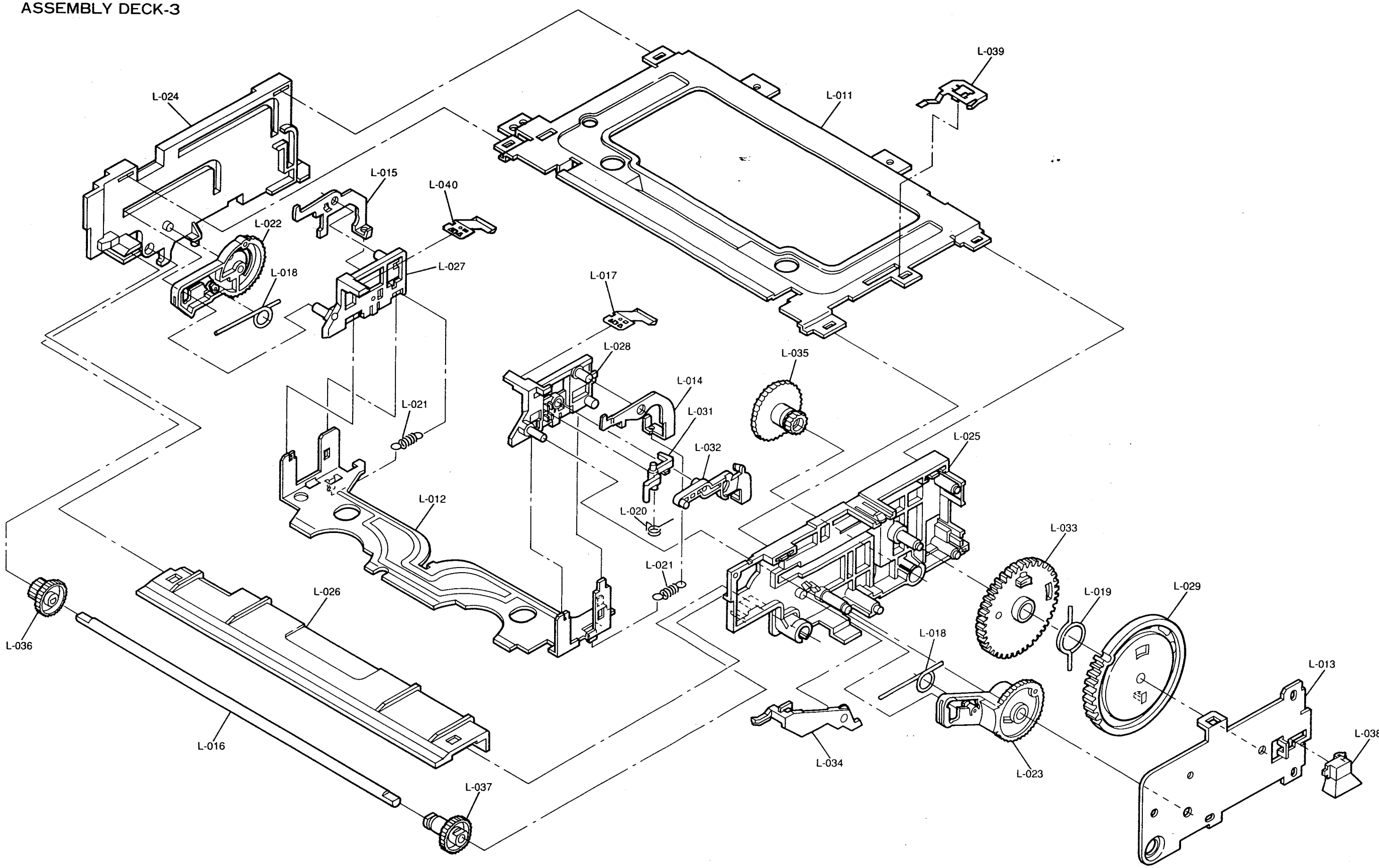
IC8A0 KEY MATRIX

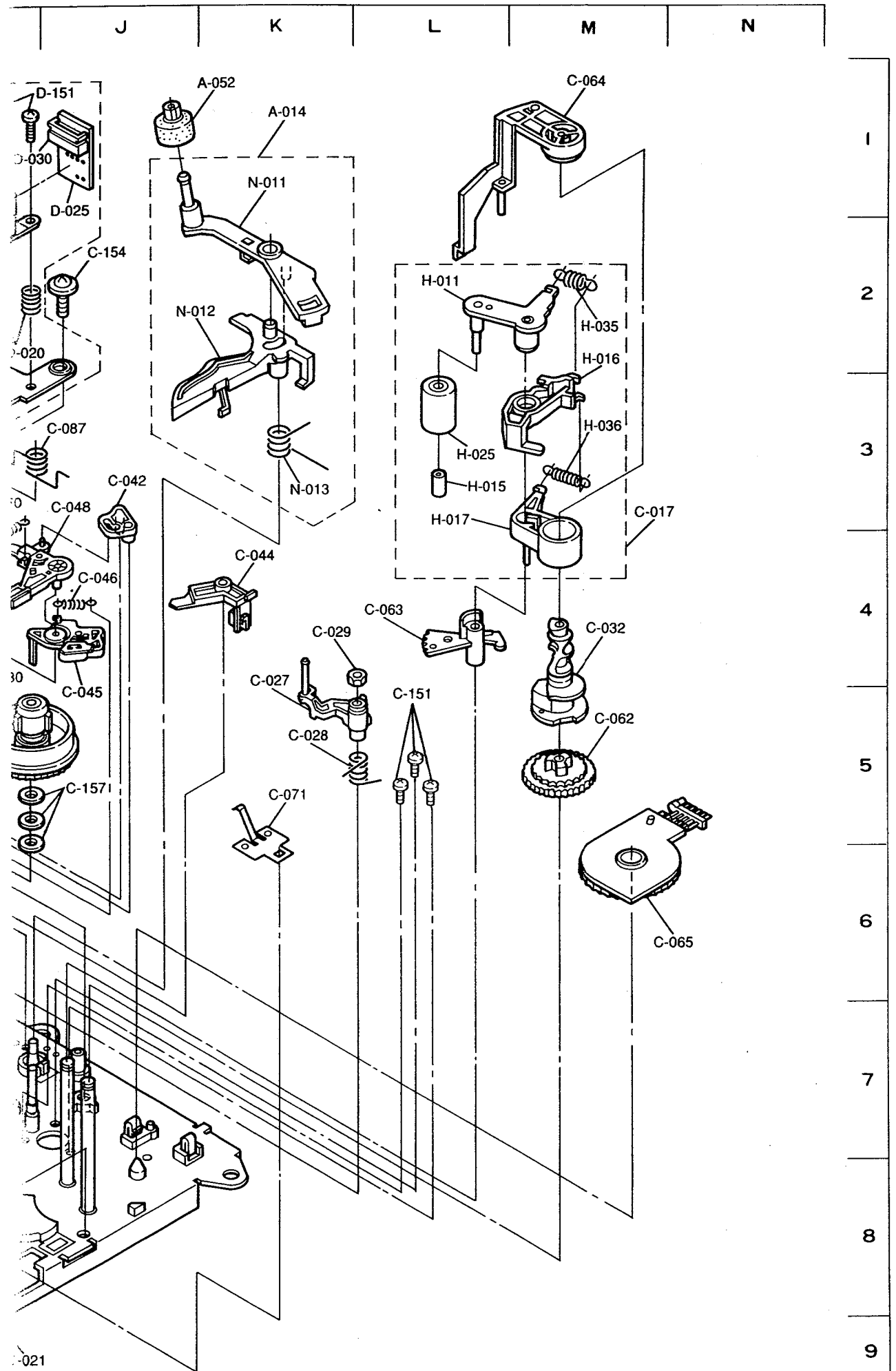
	Sb (13)	Sc (14)	Se (16)	Sf (17)	Sg (18)	Sh (19)
KEY 0 (24)		SHT−1	ONEKEY PRO		DISPLAY	
KEY 1 (25)		SHT−2	STOP			
KEY 2 (26)	REMOTE SW	SHT−3	PAUSE			POWER
KEY 3 (27)		SHT−4	PB	REC OTR		EJECT

Timer,Mechanical Control (HS−U500/HS−U550)

(U500604)

ASSEMBLY DECK-3





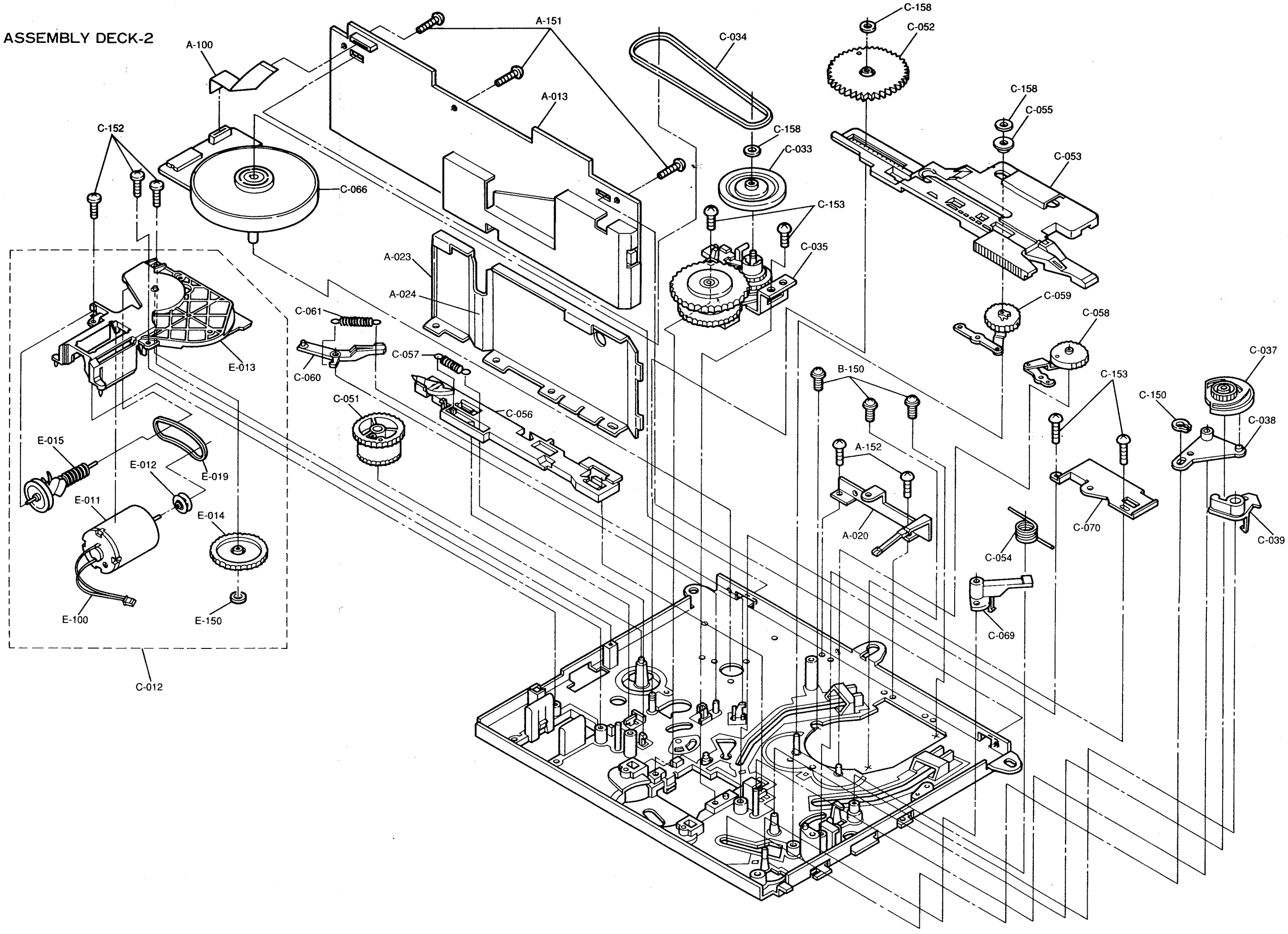
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
A-012	948A155001	○	A-4		ASSY-F/L-J		01
A-014	948B349001		K-2		ASSY-CLE		01
N-011	641B680010	○	K-2		ARM-CLE		01
N-012	641B681010	○	K-3		LEVER-CLE		01
N-013	572D703010	○	K-3		SPRING-CLE		01
B-015	948B337004	○	G-2		ASSY-DRUM		01
K-010	927B682018	○	G-1		ASSY-UPPR-DRUM		01
K-015	927B681004	○	G-2		ASSY-LOWER-DRUM		01
K-030	288P088060	○	H-2		MOTOR-DRUM	M570	01
C-011	928D104002	○	I-1		ASSY-A/C-HEAD		01
D-011	593C399010		I-2		PLATE-A/C		01
D-015	460P060060	○	I-1		HEAD	T370	01
D-020	572D639010		I-2		SPRING-A/C		03
D-025	215C730010		J-1		PWB-A/C-JA		01
D-030	452C140060		J-1		CONNECTOR-PC2M(S)		01
D-151	669D483010		I-1		SCREW	M2.6×8	02
D-152	669D485010		I-1		SCREW	2.6×8	01
C-015	948D042001	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042002	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042003	○	E-3		ASSY-TAPE-GUIDE-T		01
F-011	635B085010	○	E-4		TAPE-GUIDE-T		01
F-011	635B085020	○	E-4		TAPE-GUIDE-T		01
F-011	635B085030	○	E-4		TAPE-GUIDE-T		01
F-016	522D177010	○	E-3		GUIDE-ROLLER		01
F-021	669D197020		E-4		SET-SCREW-F	D=M3×0.5 L=4	01
C-016	948D043001	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043002	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043003	○	D-3		ASSY-TAPE-GUIDE-S		01
G-011	635B086010	○	D-3		TAPE-GUIDE-S		01
G-011	635B086020	○	D-3		TAPE-GUIDE-S		01
G-011	635B086030	○	D-3		TAPE-GUIDE-S		01
G-016	522D177010	○	D-3		GUIDE-ROLLER		01
G-021	669D197020		E-3		SET-SCREW-F	D=M3×0.5 L=4	01
C-017	948D044001	○	M-3		ASSY-ARM-PINCH		01
H-011	593C465010		L-2		ARM-PINCH		01
H-015	622D235010	○	L-3		CAP-ROLLER		01
H-016	621C243010		M-3		LEVER-PINCH		01
H-017	621C241010		M-3		SLIDER-PINCH		01
H-025	522D174010	○	L-3		ROLLER-PINCH		01
H-035	572D314010	○	M-2		SPRING-PINCH		01
H-036	572D714010	○	M-3		SPRING-CAM-PINCH		01
C-018	948C315001		F-4		ASSY-CHARGE		01
J-011	641B629010	○	F-6		LEVER-SWING-ID		01
J-012	621C238010	○	F-5		LEVER-REV		01
J-013	572D684010		F-5		SPRING-CHARGE		01
J-014	572D624010	○	F-5		SPRING-REV		01
C-021	948A159001		I-9		ASSY-MAIN-PLATE		01
C-022	635A038010		G-2		DRUM-BASE		01
C-023	460P055040	○	C-3		HEAD-FE	T371	01
C-024	592B049010	○	F-3		ARM-TENSION		01
C-025	572D627010	○	F-2		SPRING-TENS		01
C-026	641B624020	○	F-2		BELT-TENS-BRAKE		01
C-027	635B084010	○	K-5		ARM-TU-G		01
C-028	572D647010	○	K-5		SPRING-TU-G		01
C-029	674D081020	○	K-5		NUT-NYLON	M3×0.5	01
C-030	522C092010	○	I-5	G-5	UNIT-REEL-DISK		02
C-031	621C234010	○	I-5	G-6	GEAR-R		02
C-032	641B630010	○	M-4		CAM-PINCH-J		01

* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
C-042	621C315010	○	J-4		LEVER-SUB-OFF		01
C-043	641B635020	○	G-4		BRAKE-MAIN-S		01
C-044	622D219010	○	K-4		LEVER-RELEASE-M/B		01
C-045	641B634020	○	J-4		BRAKE-MAIN-T		01
C-046	572D635010	○	H-4	J-4	SPRING-M/B-J		02
C-047	641B633010	○	G-4		BRAKE-SUB-S		01
C-048	641B632010	○	I-4		BRAKE-SUB-T		01
C-049	572D623010	○	H-4		SPRING-SUB-S		01
C-050	572D625010	○	I-4		SPRING-SUB-T		01
C-062	621C240010	○	M-5		GEAR-PINCH		01
C-063	635C098010	○	L-4		GEAR-TU-G		01
C-064	641B628010	○	M-1		CAP-CAM-PINCH		01
C-065	439P031010	○	N-6		SW-MODE-J	S570	01
C-067	641B641010	○	E-7		LEVER-RIS		01
C-068	572D646010	○	E-6		SPRING-RIS		01
C-071	597D102010		K-5		PLATE-EB		01
C-072	572D712010	○	H-3		SPRING-DB		01
C-087	572D697010		I-3		SPRING-AC-EARTH		01
C-151	669D285040		L-5		SCREW-TB-PAN	M2.6×8	03
C-152	669D224020		G-3	H-2	SCREW-TB	2.6×8	03
			I-3				
C-154	669D476020	○	I-2	J-2	SCREW-TB-SEMS	2.6×8	02
C-155	669D224030		D-3		SCREW-TB	2.6×10	01
C-157	552C017030	○	G-5	J-5	WASHER-THRUST	2.5×6×0.13	06
A-052	621C033010	○	J-1		UNIT-CLE-ROLLER		01
A-101	248B173010		C-3		LEAD-CONNECTOR-S		01
L-045	641C685010		E-7		CLAMPER-LEAD-F/L		01
A-151	669D224020		B-4	E-5	SCREW-TB	2.6×8	02

ASSEMBLY DECK-2



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3
1

SYMBOL NO.	ADDRESS
C5A4	E – 1
C5A5	E – 2
C5A6	D – 1
C5A9	E – 2
C5B2	E – 3
C5B5	D – 4
C5B6	E – 4
C5B7	E – 4
C5B8	B – 5
C5C0	E – 1
C5C1	C – 2
C5C2	C – 2
C5C3	C – 2
C5C4	C – 2
C5D1	E – 3
C5D2	E – 3
C5D3	D – 3
C5D4	D – 1
C5E3	D – 4
C5E5	D – 5
C5E6	B – 5
C5E9	B – 5
C5F1	E – 3
C5F6	E – 2
C5F7	C – 2
C5G0	D – 4
C5G2	E – 4
C5G3	D – 4
C5G4	D – 4
C5H0	D – 6
C5J0	E – 3
C5J0	E – 3
C5L5	C – 2
C5S0	E – 3
C5W0	D – 6
C6A0	A – 4
C6A1	A – 4
C6A5	B – 5
C6A6	A – 5
C6A7	A – 4
C6A8	B – 4
C6A9	B – 4
C6B0	A – 4
C6B1	A – 4
C6B2	B – 4
C6B3	A – 5
C6B4	A – 4
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C6B7	B – 5
C6B8	B – 5
C6B9	B – 5
C6C0	A – 5
C6C1	A – 5
C6D1	B – 5
C6D2	C – 6
C6E0	B – 4
D2A1	A – 4
D2Q0	A – 4

SYMBOL NO.	ADDRESS
D2X1	B – 3
D3T1	B – 2
D3X1	B – 2
D3X2	B – 2
D3X3	B – 3
D4A0	E – 5
D4A1	D – 6
D4A3	D – 6
D5A2	E – 3
D5A4	D – 6
D5B3	D – 6
D5B4	D – 3
D5C0	D – 4
D5D4	D – 6
D5E1	D – 4
D5H0	D – 6
D5U0	E – 3
D5V0	E – 7
D5V1	D – 3
D5V2	D – 3
D5V6	D – 3
D5V7	D – 3
D5V9	D – 3
D5W1	D – 3
D5X0	D – 3
D5X1	D – 3
D6A0	B – 5
DL6A0	A – 5
FF	C – 5
IC2A0	A – 4
IC2A1	B – 3
IC2G0	A – 3
IC2H0	A – 5
IC3S0	A – 2
IC4A0	E – 5
IC4A1	D – 5
IC5A0	D – 2
IC5A1	E – 5
IC5A2	E – 1
IC5A3	E – 1
IC5A7	B – 6
J2A2	A – 2
J2B0	A – 2
L01	B – 1
L03	C – 1
L2A0	A – 4
L2A1	B – 5
L2B1	A – 6
L2B2	A – 6
L2B3	B – 6
L2B4	B – 6
L2G0	A – 3
L2G1	A – 2
L2G2	A – 3
L2G3	B – 3

SYMBOL NO.	ADDRESS
L2H0	A – 5
L2L0	B – 4
L3S0	A – 1
L5A0	E – 3
L5A2	E – 3
L6A2	B – 5
L6A3	A – 5
L6A4	B – 6
L6B0	B – 5
LPF2H0	A – 5
Q01	B – 1
Q02	A – 1
Q151	A – 1
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Q2A1	A – 6
Q2A2	B – 4
Q2A3	A – 4
Q2A4	A – 4
Q2A5	A – 3
Q2A6	A – 3
Q2A7	A – 4
Q2A8	A – 3
Q2A9	B – 4
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Q2B2	A – 6
Q2B4	B – 6
Q2C0	A – 3
Q2D2	A – 4
Q2D6	A – 4
Q2F0	A – 3
Q2F1	A – 2
Q2H2	B – 5
Q2H3	A – 5
Q2L6	B – 5
Q2R0	C – 3
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Q3W1	B – 3
Q3W2	B – 3
Q3X1	B – 2
Q3X2	B – 2
Q3X3	B – 2
Q4A0	E – 6
Q4A3	D – 5
Q4A4	D – 6
Q4A7	D – 5
Q4A8	D – 5
Q4B0	D – 6
Q4B1	D – 6
Q4B2	D – 6
Q4B4	D – 6
Q4B5	D – 6
Q5A1	E – 3
Q5A2	E – 3
Q5A3	E – 3
Q5A7	D – 4
Q5C1	D – 3

SYMBOL NO.	ADDRESS
Q5C2	E – 3
Q5C5	E – 4
Q5C9	B – 6
Q5D5	C – 2
Q5D6	D – 4
Q5E1	D – 1
Q5E2	D – 6
Q5E3	E – 5
Q5E4	E – 3
Q5E5	D – 2
Q5E6	D – 2
Q5F0	E – 4
Q5G1	E – 4
Q5T8	B – 5
Q5T9	D – 3
Q5U0	D – 3
Q5U1	E – 3
Q5U2	D – 3
Q5U3	D – 3
Q5U4	D – 3
Q5U5	D – 3
Q5U6	D – 3
Q5U7	B – 5
Q5X1	D – 3
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Q6A2	B – 6
Q6A3	B – 5
Q6A4	B – 5
Q6A5	A – 4
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R01	A – 1
R02	B – 1
R03	A – 1
R05	A – 1
R153	A – 1
R154	A – 1
R155	A – 1
R157	A – 1
R2A0	A – 4
R2A1	A – 4
R2A2	A – 4
R2A3	A – 4
R2A4	A – 4
R2A6	A – 4
R2A7	A – 4
R2A8	A – 4
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R2B2	A – 3
R2B3	A – 4
R2B4	B – 6
R2B5	A – 4
R2B6	A – 4
R2B7	A – 4
R2B9	C – 4
R2C0	A – 4
R2C2	A – 4
R2C3	B – 4
R2C4	A – 6

SYMBOL NO.	ADDRESS
R2C5	A – 6
R2C6	A – 6
R2C7	A – 6
R2C8	A – 6
R2C9	B – 6
R2D0	B – 6
R2D1	A – 6
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R2D3	A – 6
R2D4	A – 3
R2D6	A – 3
R2D7	B – 3
R2D8	B – 3
R2D9	A – 4
R2E0	A – 1
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R2E3	B – 3
R2E4	A – 3
R2E5	B – 3
R2G0	B – 3
R2G2	A – 3
R2G3	A – 2
R2G4	B – 3
R2G5	B – 2
R2G6	A – 2
R2H0	B – 5
R2H1	A – 5
R2H5	A – 5
R2H6	A – 5
R2H7	B – 5
R2H8	A – 5
R2J1	A – 5
R2J2	A – 5
R2M5	B – 5
R2M6	B – 5
R2P1	A – 4
R2R0	C – 4
R2T2	B – 3
R2T3	B – 3
R2W0	A – 3
R2X0	B – 4
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R2Y2	A – 4
R2Z7	A – 4
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R3T0	A – 2
R3T1	A – 2
R3T2	A – 2
R3T3	A – 2
R3T5	B – 2
R3T7	A – 2

SYMBOL NO.	ADDRESS
R3T8	B – 2
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R3W2	B – 3
R3W3	B – 3
R3W4	B – 3
R3W6	B – 3
R3W7	B – 3
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R3X4	B – 2
R3X5	B – 2
R3X6	B – 2
R3X7	B – 2
R3X8	B – 1
R3X9	B – 1
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R4C9	D – 6
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R4D4	D – 5
R4D5	D – 5
R4D8	D – 5
R4D9	D – 5
R4E0	D – 5
R4E1	D – 5
R4E2	D – 5
R4E3	D – 5
R4E6	D – 5
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R4K2	D – 6
R4K3	D – 6
R4K4	D – 6
R4K5	D – 6
R4L0	D – 5

SYMBOL NO.	ADDRESS
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R4L7	E – 6
R4Z0	D – 6
R4Z4	E – 6
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R5A1	E – 1
R5A2	E – 1
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R5A6	E – 3
R5A7	E – 3
R5A8	E – 3
R5A9	E – 3
R5B0	E – 3
R5B3	D – 2
R5B4	C – 2
R5B5	D – 2
R5B9	C – 2
R5D2	D – 4
R5D4	D – 6
R5D9	E – 3
R5E0	E – 3
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R5E5	E – 4
R5E6	E – 4
R5E7	E – 4
R5E8	E – 4
R5E9	E – 4
R5F0	E – 4
R5F1	E – 3
R5F3	C – 5
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R5G3	E – 7
R5G6	E – 4
R5G9	E – 3
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R5H7	D – 2
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R5L8	D – 5
R5L9	C – 6
R5M0	B – 5
R5M1	E – 4
R5M2	E – 4
R5M6	B – 5

SYMBOL NO.	ADDRESS
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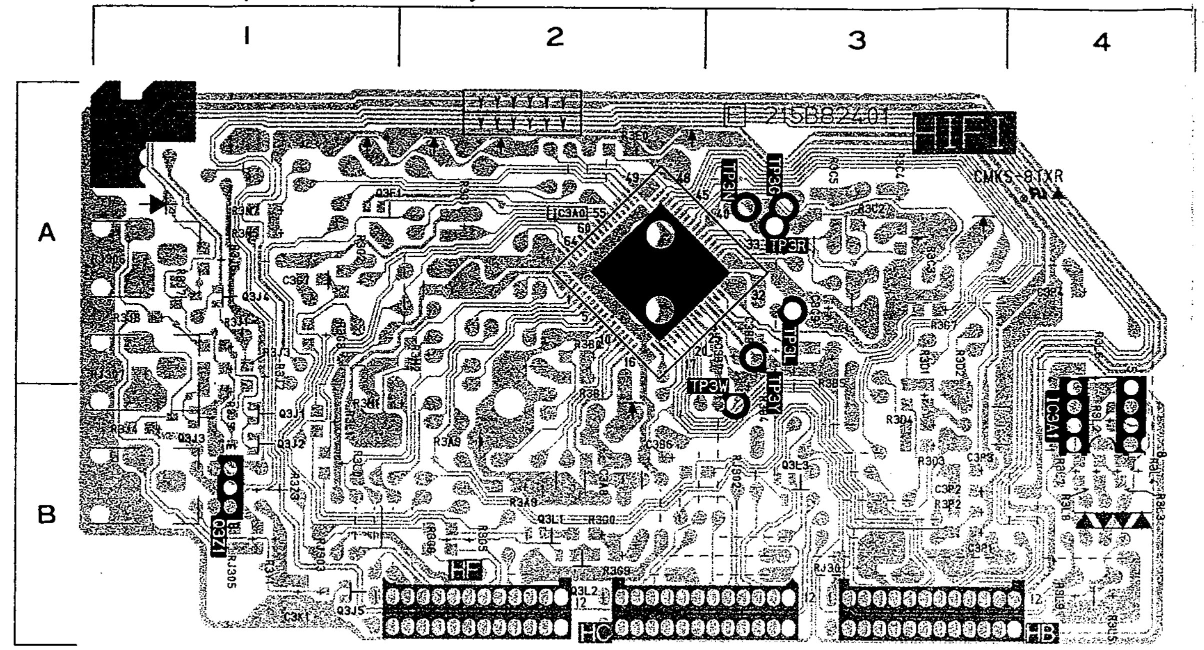
R5M8	E – 3
R5M9	E – 4
R5N0	E – 4
R5N2	E – 4
R5N3	D – 3
R5N4	D – 3
R5N8	D – 3
R5N9	D – 2
R5P0	D – 3
R5P1	D – 3
R5P2	D – 3
R5P2	D – 3
R5P4	D – 3
R5P5	D – 3
R5P6	D – 3
R5P7	D – 3
R5P8	D – 3
R5P9	D – 3
R5R0	C – 2
R5R1	C – 2
R5R3	C – 2
R5R4	C – 2
R5R5	C – 2
R5R6	C – 2
R5S0	D – 1
R5S1	D – 1
R5S2	E – 6
R5Z6	D – 1
R5Z9	D – 1
R6A1	B – 6

SYMBOL NO.	ADDRESS
R6A2	A – 4
R6A3	B – 5
R6A4	B – 5
R6A5	B – 4
R6A7	A – 4
R6A8	A – 4
R6B0	A – 4
R6B1	B – 4
R6B2	B – 5
R6B6	B – 6
R6B7	B – 5
R6B8	B – 5
R6B9	B – 5
R6C0	A – 5
R6C1	A – 5
R6C2	A – 6
R6C3	B – 4
R6C4	C – 6
R6D0	B – 5
R6E0	B – 4
R6X0	A – 5
R6X1	A – 5
RJ01	A – 6
RJ01	B – 1
RJ02	B – 1
RJ03	A – 2
RJ05	A – 5
RJ06	A – 5
RJ07	A – 6
RJ08	D – 2
RJ09	D – 2
RJ10	E – 2
RJ11	D – 3
RJ12	D – 3
RJ13	E – 4
RJ14	D – 5
RJ15	D – 6
RJ16	E – 3
RJ17	A – 6
RJ18	B – 2
RJ22	C – 2
RJ30	E – 4
RJ40	E – 4
RJ41	E – 4
S01	A – 1
S2A1	A – 3
S5A0	E – 6
TP10	C – 1
TP11	B – 1
TP12	C – 1
TP13	B – 1
TP1S	C – 1
TP2A	B – 5
TP2B	B – 4
TP2C	A – 4
TP2E	A – 4
TP2G	A – 4

SYMBOL NO.	ADDRESS
TP2H	B – 5
TP2J	A – 3
TP2M	A – 4
TP2S	B – 4
TP3B	A – 1
TP3C	A – 2
TP3H	B – 2
TP3L	B – 1
TP3M	C – 1
TP3P	A – 2
TP3R	B – 1
TP3W	B – 1
TP5A	D – 1
TP5B	E – 1
TP5C	D – 1
TP5D	E – 1
TP5F	E – 1
TP5X	C – 1
TP5Y	D – 3
TP6C	A – 4
TP9A	B – 1
TP9C	B – 1
TP2AH	A – 5
TP2P0	A – 3
TP2P1	B – 6
TP2P2	A – 4
TP2P3	A – 4
TP2P5	A – 4
TP2P6	A – 3
TP2P7	A – 3
TP2P8	A – 3
TP2P9	A – 3
TP2W0	A – 3
TP4C0	E – 4
TP4C1	E – 5
TP4C2	E – 6
TP4D1	D – 5
TP4D2	D – 5
TP4F1	C – 5
TP4G1	E – 6
TP4M1	C – 5
TP5J0	E – 6
TP5J1	E – 1
TP5J2	E – 1
TP5J3	E – 1
TP5J4	E – 1
TP5J5	E – 2
TP5J6	C – 4
TP5J8	E – 3
TP5J9	E – 4
TP5K1	D – 1
TP5K2	D – 1
TP5K3	D – 1
TP5K4	E – 4
TU01	C – 1
VL6A0	A – 5
VR103	A – 2

SYMBOL NO.	ADDRESS
VR2A0	A – 3
VR2A1	A – 3
VR2A2	A – 3
VR2A5	A – 4
VR2K0	A – 6
VR2M0	A – 3
VR3S0	A – 2
VR3S1	B – 2
VR3S2	A – 2
VR3S3	A – 2
VR5A0	C – 1
VR6A0	A – 5
X2G0	A – 3
X5A0	C – 2
X5A1	C – 2
X6A0	A – 4

PCB-HIFI〔SOLDER SIDE〕



PCB-HIFI〔SOLDER SIDE〕

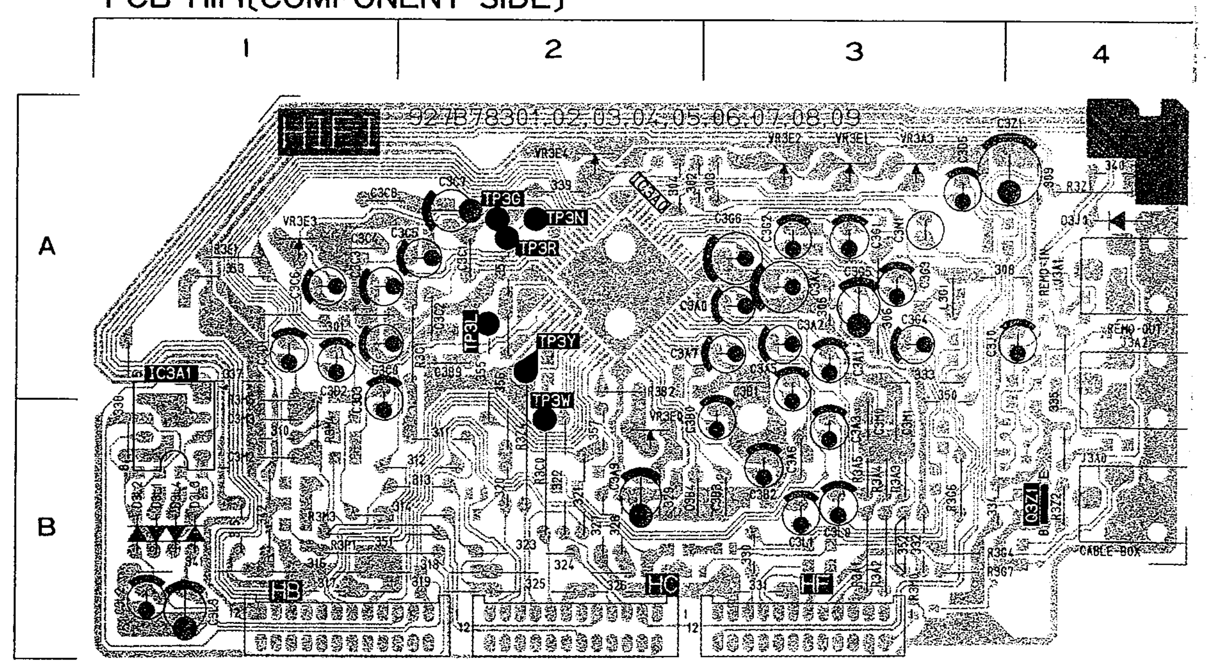
SYMBOL NO.	ADDRESS
C3A8	B－2
C3B6	B－2
C3B7	A－3
C3B8	A－3
C3C9	A－3
C3G7	A－1
C3K1	B－1
C3P1	B－3
C3P2	B－3
C3P3	B－3
C3P4	A－4
IC3A0	A－2
IC3A1	B－4
Q3F1	A－1
Q3J1	B－1
Q3J2	B－1
Q3J3	B－1
Q3J4	A－1
Q3J5	B－1
Q3L1	B－2
Q3L2	B－2
Q3L3	B－3
Q3Z1	B－1

SYMBOL NO.	ADDRESS
R3A8	B－2
R3A9	B－2
R3B0	A－2
R3B1	B－2
R3B4	B－3
R3B5	B－3
R3B7	A－3
R3C2	A－3
R3C3	A－3
R3C4	A－3
R3C5	A－3
R3C8	B－2
R3D1	B－3
R3D2	B－3
R3D3	B－3
R3D4	B－3
R3E0	A－2
R3G0	B－2
R3G1	A－2
R3G2	A－1
R3G3	A－1
R3G5	B－2
R3G9	B－2
R3J1	A－1
R3J2	B－1

SYMBOL NO.	ADDRESS
R3J3	A－1
R3J4	B－1
R3J5	B－1
R3J6	A－1
R3J7	A－1
R3J8	A－1
R3L0	B－1
R3L1	B－1
R3L2	B－4
R3L3	B－4
R3L4	B－4
R3L5	B－4
R3L6	A－4
R3L7	B－4
R3L8	B－4
R3L9	B－4
R3M1	B－1
R3M2	A－2
R3N5	A－1
R3N7	A－1
R3P2	B－3
R3Y1	B－1
R3Z3	B－1
RJ301	B－3

SYMBOL NO.	ADDRESS
RJ302	B－3
RJ303	B－1
RJ305	B－1
RJ306	A－1
RJ307	B－1
TP3G	A－3
TP3L	A－3
TP3N	A－3
TP3R	A－3
TP3W	B－3
TP3Y	A－3

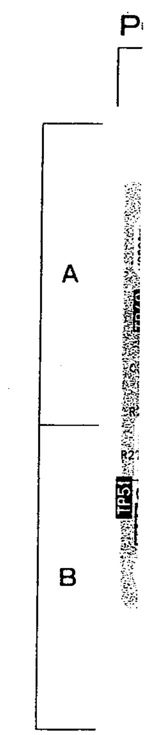
PCB-HIFI〔COMPONENT SIDE〕



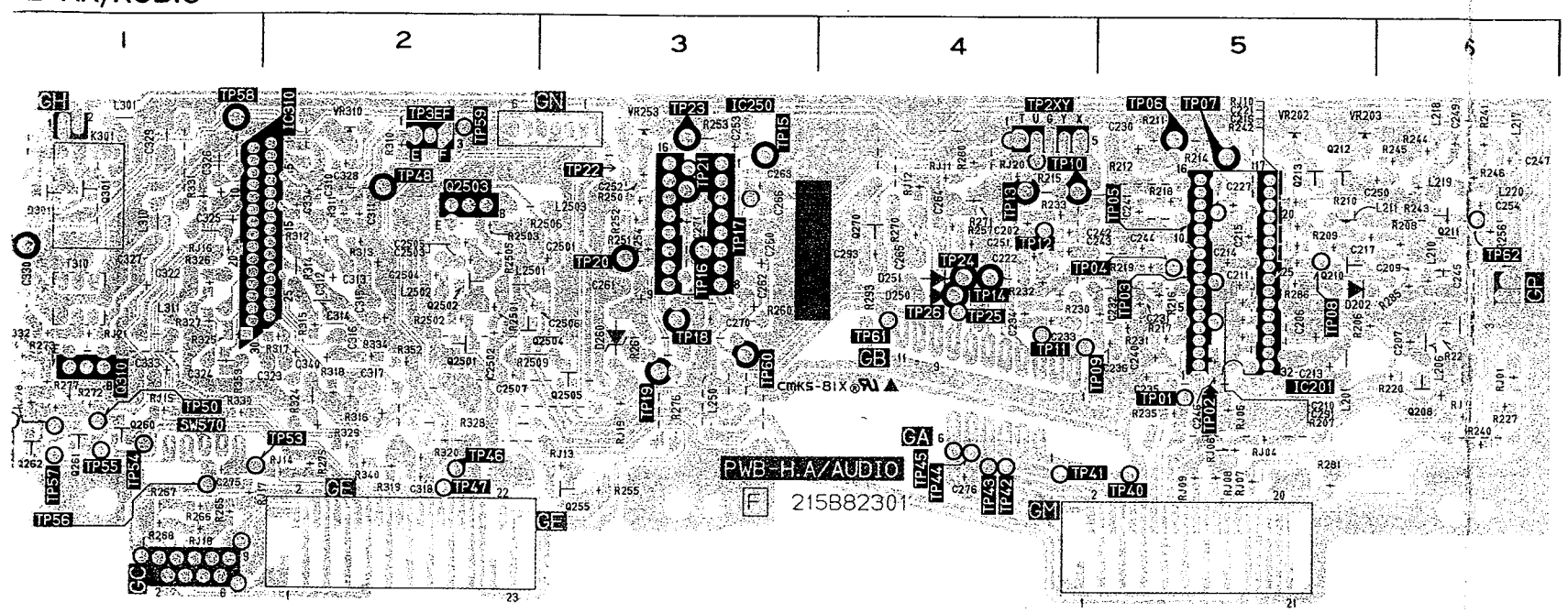
PCB-HIFI〔COMPONENT SIDE〕

SYMBOL NO.	ADDRESS
C3N1	A－3
D3J0	A－4
D3L1	B－1
D3L2	B－1
D3L3	B－1
D3L4	B－1
IC3A0	A－2
IC3A1	B－1
J3A0	B－4
J3A1	A－4
J3A2	A－4
L3G1	A－3
Q3Z1	B－3
TP3G	A－2
TP3L	A－2
TP3N	A－2
TP3R	A－2
TP3W	B－2
TP3Y	A－2

SYMBOL NO.	ADDRESS
VR3A3	A－3
VR3E0	B－2
VR3E1	A－3
VR3E2	A－3
VR3E3	A－1
VR3E4	A－2



CB-HA/AUDIO



PCB-HA/AUDIO

SYMBOL NO.	ADDRESS
C202	A – 4
C206	A – 5
C207	A – 6
C209	A – 6
C210	B – 5
C211	A – 5
C213	B – 5
C214	A – 5
C215	A – 5
C216	A – 5
C217	A – 5
C221	A – 5
C222	A – 4
C227	A – 5
C230	A – 5
C231	A – 5
C232	A – 5
C233	A – 4
C234	A – 4
C235	B – 5
C236	B – 5
C240	B – 5
C241	A – 5
C242	A – 4
C243	A – 4
C244	A – 5
C245	A – 6
C246	B – 5
C247	A – 6
C248	A – 6
C249	A – 6
C250	A – 6
C251	A – 4
C252	A – 3
C253	A – 3
C254	A – 6
C260	A – 3
C261	A – 3
C262	A – 3
C263	A – 3
C264	A – 4
C265	A – 4
C266	A – 3
C270	A – 3
C271	A – 3
C275	B – 1
C276	B – 4
C280	B – 6
C291	B – 5
C293	A – 4
C310	A – 2
C311	A – 2
C312	A – 2
C313	A – 2
C314	A – 2
C315	A – 2
C316	A – 2
C317	B – 2
C318	B – 2
C322	A – 1

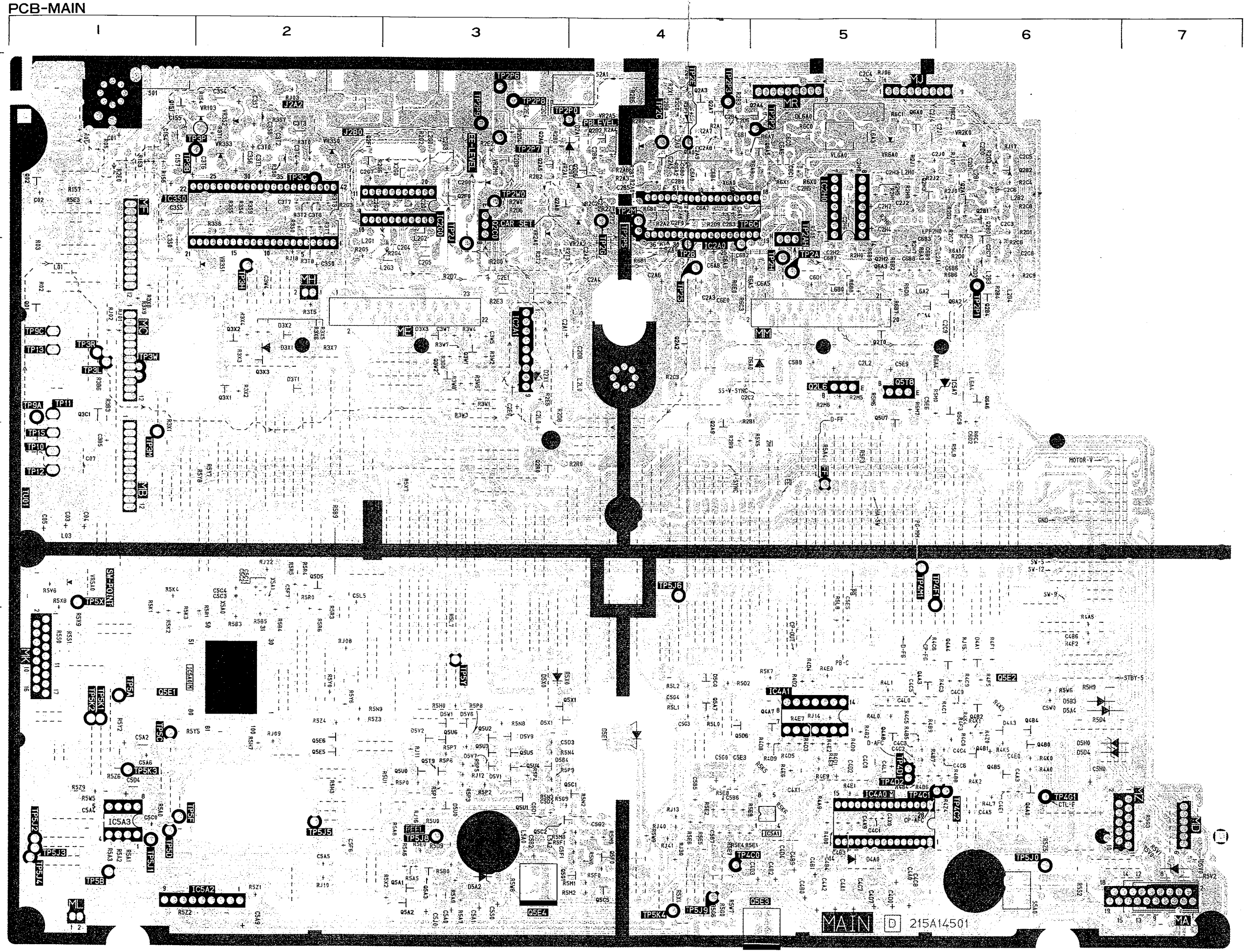
SYMBOL NO.	ADDRESS
C323	B – 2
C324	B – 1
C325	A – 1
C326	A – 1
C327	A – 1
C328	A – 2
C329	A – 1
C330	A – 1
C331	A – 1
C333	B – 1
C334	A – 2
C340	B – 2
C2501	A – 3
C2502	B – 2
C2503	A – 2
C2504	A – 2
C2505	A – 2
C2506	A – 3
C2507	B – 2
D202	A – 5
D250	A – 4
D251	A – 4
D260	A – 3
D301	A – 1
IC201	A – 5
IC250	A – 3
IC310	A – 2
K301	A – 1
L206	B – 6
L210	A – 6
L210	B – 5
L211	A – 6
L213	A – 6
L217	A – 6
L218	A – 6
L219	A – 6
L220	A – 6
L250	B – 3
L301	A – 1
L310	A – 1
L311	A – 1
L2501	A – 2
L2502	A – 2
L2503	A – 3
Q208	B – 6
Q210	A – 5
Q211	A – 6
Q212	A – 5
Q213	A – 5
Q255	B – 3
Q260	B – 1
Q261	B – 1
Q261	B – 1
Q262	B – 1
Q270	A – 4

SYMBOL NO.	ADDRESS
Q301	A – 1
Q310	B – 1
Q2501	B – 2
Q2502	A – 2
Q2503	A – 2
Q2504	A – 3
Q2505	B – 3
R206	A – 5
R207	B – 5
R208	A – 6
R209	A – 5
R210	A – 5
R211	A – 5
R212	A – 5
R214	A – 5
R215	A – 4
R217	A – 5
R218	A – 5
R219	A – 5
R220	B – 6
R222	B – 6
R227	B – 6
R230	A – 4
R231	A – 5
R232	A – 4
R233	A – 4
R235	B – 5
R240	B – 6
R241	A – 6
R242	A – 5
R243	A – 6
R244	A – 6
R245	A – 6
R246	A – 6
R250	A – 3
R251	A – 3
R252	A – 3
R253	A – 3
R254	A – 3
R255	B – 3
R256	A – 6
R257	A – 4
R260	A – 3
R261	A – 3
R265	B – 1
R266	B – 1
R267	B – 1
R268	B – 1
R270	A – 4
R271	A – 4
R272	B – 1
R273	B – 1
R274	B – 1
R275	B – 2
R276	B – 3
R277	B – 1
R278	B – 1
R279	B – 1
R280	A – 4

SYMBOL NO.	ADDRESS
R281	B – 5
R285	A – 6
R286	A – 5
R293	A – 4
R310	A – 2
R311	A – 2
R312	A – 2
R313	A – 2
R314	A – 2
R315	A – 2
R316	B – 2
R317	A – 2
R318	B – 2
R319	B – 2
R320	B – 2
R324	B – 2
R325	A – 1
R326	A – 1
R327	A – 1
R328	B – 2
R329	B – 2
R330	B – 1
R331	A – 1
R332	A – 1
R334	B – 2
R340	B – 2
R352	B – 2
R353	B – 1
R360	A – 1
R2501	A – 2
R2502	A – 2
R2503	A – 2
R2505	A – 2
R2506	A – 3
RJ01	B – 6
RJ02	B – 6
RJ04	B – 5
RJ06	B – 5
RJ06	B – 5
RJ07	B – 5
RJ08	B – 5
RJ09	B – 5
RJ10	A – 5
RJ11	A – 4
RJ12	A – 4
RJ13	B – 3
RJ14	B – 2
RJ15	B – 1
RJ16	A – 1
RJ17	B – 2
RJ18	B – 1
RJ19	B – 3
RJ20	A – 4
RJ21	A – 1
SW570	B – 1
T310	B – 1

SYMBOL NO.	ADDRESS
TP01	B – 5
TP02	B – 5
TP03	A – 5
TP04	A – 5
TP05	A – 5
TP06	A – 5
TP07	A – 5
TP08	A – 5
TP09	B – 5
TP10	A – 4
TP11	A – 4
TP12	A – 4
TP14	A – 4
TP15	A – 3
TP16	A – 3
TP17	A – 3
TP18	A – 3
TP19	B – 3
TP20	A – 3
TP21	A – 3
TP22	A – 3
TP23	A – 3
TP24	A – 4
TP25	A – 4
TP26	A – 4
TP40	B – 5
TP41	B – 4
TP42	B – 4
TP43	B – 4
TP44	B – 4
TP45	B – 4
TP46	B – 2
TP47	B – 2
TP48	A – 2
TP49	A – 1
TP50	B – 1
TP51	B – 1
TP52	B – 1
TP53	B – 2
TP54	B – 1
TP55	B – 1
TP56	B – 1
TP57	B – 1
TP58	A – 1
TP59	A – 2
TP60	B – 3
TP61	A – 4
TP62	A – 6
TP2XY	A – 4
TP3EF	A – 2
VR202	A – 5
VR203	A – 5
VR253	A – 3
VR310	A – 2

PCB-MAIN



PCB-MAIN

SYMBOL NO.	ADDRESS
C01	A – 1
C02	A – 1
C03	C – 1
C04	C – 1
C04	C – 1
C05	C – 1
C07	C – 1
C154	A – 1
C155	A – 1
C157	A – 1
C2A1	B – 3
C2A2	B – 4
C2A3	B – 4
C2A4	B – 4
C2A5	A – 4
C2A6	B – 4
C2A8	A – 4
C2A9	A – 4
C2B0	A – 4
C2B1	A – 3
C2B2	A – 4
C2B3	A – 4
C2B4	A – 4
C2B5	A – 4
C2B6	A – 4
C2B8	A – 4
C2C1	A – 3
C2C2	B – 4
C2C3	A – 6
C2C4	A – 5
C2C5	A – 6
C2C6	A – 6
C2C7	B – 6
C2C8	B – 6
C2C9	B – 6
C2D0	A – 6
C2D1	A – 6
C2D3	B – 6
C2D6	A – 4
C2D8	B – 4
C2D9	A – 3
C2E0	B – 3
C2E1	B – 3
C2F0	A – 4
C2G0	A – 3
C2G1	A – 3
C2G2	A – 2
C2G3	A – 3
C2G4	B – 3
C2G5	B – 3
C2G7	A – 2
C2H2	B – 5
C2H3	A – 5
C2H4	A – 5
C2H5	A – 5
C2H6	A – 5
C2H7	A – 5
C2H9	A – 5
C2J0	A – 5
C2J1	A – 5

SYMBOL NO.	ADDRES
C2J2	A – 5
C2J4	A – 5
C2L0	B – 3
C2L2	B – 5
C3B5	C – 1
C3S0	B – 2
C3S4	A – 2
C3S5	A – 1
C3S6	A – 2
C3S7	A – 2
C3S8	A – 2
C3T0	A – 2
C3T1	A – 2
C3T2	A – 2
C3T3	A – 2
C3T4	A – 2
C3T5	A – 2
C3T6	A – 2
C3T7	A – 2
C3T8	A – 2
C3W4	B – 2
C3W5	B – 3
C3W7	B – 3
C4A0	E – 5
C4A1	E – 5
C4A2	E – 5
C4A3	D – 6
C4A5	E – 6
C4A9	E – 5
C4B0	E – 5
C4B1	E – 5
C4B2	E – 5
C4B3	E – 5
C4B4	E – 5
C4B6	D – 6
C4B9	E – 5
C4C0	D – 5
C4C1	E – 5
C4C2	D – 5
C4C3	D – 5
C4C4	D – 6
C4C5	D – 5
C4C6	D – 6
C4C7	E – 5
C4C8	E – 5
C4C9	D – 6
C4D0	E – 5
C4D2	D – 5
C4D3	E – 4
C4D4	E – 5
C4D7	E – 5
C4E0	D – 6
C4E1	E – 6
C4L0	D – 5
C4L1	D – 5
C4X0	E – 5
C4X1	D – 5
C5A0	E – 3
C5A1	E – 3
C5A2	D – 1

SS
5
5
5
5
2
2
1
2
2
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2
2
2
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2
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2
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6
5
5
4
5
5
6
5
5
5
3
3
1

SYMBOL NO.	ADDRESS
C5A4	E – 1
C5A5	E – 2
C5A6	D – 1
C5A9	E – 2
C5B2	E – 3
C5B5	D – 4
C5B6	E – 4
C5B7	E – 4
C5B8	B – 5
C5C0	E – 1
C5C1	C – 2
C5C2	C – 2
C5C3	C – 2
C5C4	C – 2
C5D1	E – 3
C5D2	E – 3
C5D3	D – 3
C5D4	D – 1
C5E3	D – 4
C5E5	D – 5
C5E6	B – 5
C5E9	B – 5
C5F1	E – 3
C5F6	E – 2
C5F7	C – 2
C5G0	D – 4
C5G2	E – 4
C5G3	D – 4
C5G4	D – 4
C5H0	D – 6
C5J0	E – 3
C5J0	E – 3
C5L5	C – 2
C5S0	E – 3
C5W0	D – 6
C6A0	A – 4
C6A1	A – 4
C6A5	B – 5
C6A6	A – 5
C6A7	A – 4
C6A8	B – 4
C6A9	B – 4
C6B0	A – 4
C6B1	A – 4
C6B2	B – 4
C6B3	A – 5
C6B4	A – 4
C6B4	A – 4
C6B6	B – 6
C6B7	B – 5
C6B8	B – 5
C6B9	B – 5
C6C0	A – 5
C6C1	A – 5
C6D1	B – 5
C6D2	C – 6
C6E0	B – 4
D2A1	A – 4
D2Q0	A – 4

SYMBOL NO.	ADDRESS
D2X1	B – 3
D3T1	B – 2
D3X1	B – 2
D3X2	B – 2
D3X3	B – 3
D4A0	E – 5
D4A1	D – 6
D4A3	D – 6
D5A2	E – 3
D5A4	D – 6
D5B3	D – 6
D5B4	D – 3
D5C0	D – 4
D5D4	D – 6
D5E1	D – 4
D5H0	D – 6
D5U0	E – 3
D5V0	E – 7
D5V1	D – 3
D5V2	D – 3
D5V6	D – 3
D5V7	D – 3
D5V9	D – 3
D5W1	D – 3
D5X0	D – 3
D5X1	D – 3
D6A0	B – 5
DL6A0	A – 5
FF	C – 5
IC2A0	A – 4
IC2A1	B – 3
IC2G0	A – 3
IC2H0	A – 5
IC3S0	A – 2
IC4A0	E – 5
IC4A1	D – 5
IC5A0	D – 2
IC5A1	E – 5
IC5A2	E – 1
IC5A3	E – 1
IC5A7	B – 6
J2A2	A – 2
J2B0	A – 2
L01	B – 1
L03	C – 1
L2A0	A – 4
L2A1	B – 5
L2B1	A – 6
L2B2	A – 6
L2B3	B – 6
L2B4	B – 6
L2G0	A – 3
L2G1	A – 2
L2G2	A – 3
L2G3	B – 3

SYMBOL NO.	ADDRESS
L2H0	A – 5
L2L0	B – 4
L3S0	A – 1
L5A0	E – 3
L5A2	E – 3
L6A2	B – 5
L6A3	A – 5
L6A4	B – 6
L6B0	B – 5
LPF2H0	A – 5
Q01	B – 1
Q02	A – 1
Q151	A – 1
Q2A0	A – 4
Q2A1	A – 6
Q2A2	B – 4
Q2A3	A – 4
Q2A4	A – 4
Q2A5	A – 3
Q2A6	A – 3
Q2A7	A – 4
Q2A8	A – 3
Q2A9	B – 4
Q2B0	A – 6
Q2B1	A – 6
Q2B2	A – 6
Q2B4	B – 6
Q2C0	A – 3
Q2D2	A – 4
Q2D6	A – 4
Q2F0	A – 3
Q2F1	A – 2
Q2H2	B – 5
Q2H3	A – 5
Q2L6	B – 5
Q2R0	C – 3
Q2T0	B – 5
Q3C1	B – 1
Q3W1	B – 3
Q3W2	B – 3
Q3X1	B – 2
Q3X2	B – 2
Q3X3	B – 2
Q4A0	E – 6
Q4A3	D – 5
Q4A4	D – 6
Q4A7	D – 5
Q4A8	D – 5
Q4B0	D – 6
Q4B1	D – 6
Q4B2	D – 6
Q4B4	D – 6
Q4B5	D – 6
Q5A1	E – 3
Q5A2	E – 3
Q5A3	E – 3
Q5A7	D – 4
Q5C1	D – 3

SYMBOL NO.	ADDRESS
Q5C2	E – 3
Q5C5	E – 4
Q5C9	B – 6
Q5D5	C – 2
Q5D6	D – 4
Q5E1	D – 1
Q5E2	D – 6
Q5E3	E – 5
Q5E4	E – 3
Q5E5	D – 2
Q5E6	D – 2
Q5F0	E – 4
Q5G1	E – 4
Q5T8	B – 5
Q5T9	D – 3
Q5U0	D – 3
Q5U1	E – 3
Q5U2	D – 3
Q5U3	D – 3
Q5U4	D – 3
Q5U5	D – 3
Q5U6	D – 3
Q5U7	B – 5
Q5X1	D – 3
Q6A0	A – 5
Q6A2	B – 6
Q6A3	B – 5
Q6A4	B – 5
Q6A5	A – 4
Q6A6	B – 6
R01	A – 1
R02	B – 1
R03	A – 1
R05	A – 1
R153	A – 1
R154	A – 1
R155	A – 1
R157	A – 1
R2A0	A – 4
R2A1	A – 4
R2A2	A – 4
R2A3	A – 4
R2A4	A – 4
R2A6	A – 4
R2A7	A – 4
R2A8	A – 4
R2B0	A – 3
R2B1	B – 4
R2B2	A – 3
R2B3	A – 4
R2B4	B – 6
R2B5	A – 4
R2B6	A – 4
R2B7	A – 4
R2B9	C – 4
R2C0	A – 4
R2C2	A – 4
R2C3	B – 4
R2C4	A – 6

SYMBOL NO.	ADDRESS
R2C5	A – 6
R2C6	A – 6
R2C7	A – 6
R2C8	A – 6
R2C9	B – 6
R2D0	B – 6
R2D1	A – 6
R2D2	A – 6
R2D3	A – 6
R2D4	A – 3
R2D6	A – 3
R2D7	B – 3
R2D8	B – 3
R2D9	A – 4
R2E0	A – 1
R2E2	A – 3
R2E3	B – 3
R2E4	A – 3
R2E5	B – 3
R2G0	B – 3
R2G2	A – 3
R2G3	A – 2
R2G4	B – 3
R2G5	B – 2
R2G6	A – 2
R2H0	B – 5
R2H1	A – 5
R2H5	A – 5
R2H6	A – 5
R2H7	B – 5
R2H8	A – 5
R2J1	A – 5
R2J2	A – 5
R2M5	B – 5
R2M6	B – 5
R2P1	A – 4
R2R0	C – 4
R2T2	B – 3
R2T3	B – 3
R2W0	A – 3
R2X0	B – 4
R2X1	A – 4
R2Y2	A – 4
R2Z7	A – 4
R3B3	B – 1
R3B6	B – 1
R3D0	B – 3
R3S0	A – 2
R3S4	A – 2
R3S5	A – 2
R3S6	A – 2
R3S7	A – 2
R3S8	A – 2
R3S9	A – 2
R3T0	A – 2
R3T1	A – 2
R3T2	A – 2
R3T3	A – 2
R3T5	B – 2
R3T7	A – 2

SYMBOL NO.	ADDRESS
R3T8	B – 2
R3W1	B – 3
R3W2	B – 3
R3W3	B – 3
R3W4	B – 3
R3W6	B – 3
R3W7	B – 3
R3W8	B – 3
R3X1	C – 1
R3X2	B – 2
R3X3	B – 2
R3X4	B – 2
R3X5	B – 2
R3X6	B – 2
R3X7	B – 2
R3X8	B – 1
R3X9	B – 1
R4A0	D – 6
R4A5	D – 6
R4A9	E – 5
R4B0	E – 5
R4B2	D – 5
R4B4	D – 5
R4B5	D – 5
R4B6	D – 5
R4B7	D – 5
R4B8	D – 6
R4B9	D – 5
R4C0	D – 6
R4C1	D – 6
R4C3	D – 6
R4C5	D – 5
R4C8	D – 5
R4C9	D – 6
R4D0	D – 5
R4D1	D – 5
R4D2	D – 5
R4D3	D – 5
R4D4	D – 5
R4D5	D – 5
R4D8	D – 5
R4D9	D – 5
R4E0	D – 5
R4E1	D – 5
R4E2	D – 5
R4E3	D – 5
R4E6	D – 5
R4E7	D – 5
R4E9	D – 5
R4F1	D – 6
R4F2	D – 6
R4F3	D – 6
R4F5	D – 6
R4K0	D – 6
R4K1	D – 6
R4K2	D – 6
R4K3	D – 6
R4K4	D – 6
R4K5	D – 6
R4L0	D – 5

SYMBOL NO.	ADDRESS
R4L1	D – 5
R4L7	E – 6
R4Z0	D – 6
R4Z4	E – 6
R5A0	E – 1
R5A1	E – 1
R5A2	E – 1
R5A3	E – 1
R5A4	C – 5
R5A5	E – 3
R5A6	E – 3
R5A7	E – 3
R5A8	E – 3
R5A9	E – 3
R5B0	E – 3
R5B3	D – 2
R5B4	C – 2
R5B5	D – 2
R5B9	C – 2
R5D2	D – 4
R5D4	D – 6
R5D9	E – 3
R5E0	E – 3
R5E1	E – 4
R5E2	E – 4
R5E3	A – 1
R5E4	E – 4
R5E5	E – 4
R5E6	E – 4
R5E7	E – 4
R5E8	E – 4
R5E9	E – 4
R5F0	E – 4
R5F1	E – 3
R5F3	C – 5
R5G0	E – 4
R5G3	E – 7
R5G6	E – 4
R5G9	E – 3
R5H0	D – 3
R5H3	D – 2
R5H7	D – 2
R5H9	D – 6
R5K1	C – 1
R5K2	C – 1
R5K3	C – 1
R5K4	C – 1
R5K5	D – 5
R5K6	E – 5
R5K7	D – 5
R5L0	D – 4
R5L1	D – 4
R5L2	D – 4
R5L7	D – 3
R5L8	D – 5
R5L9	C – 6
R5M0	B – 5
R5M1	E – 4
R5M2	E – 4
R5M6	B – 5

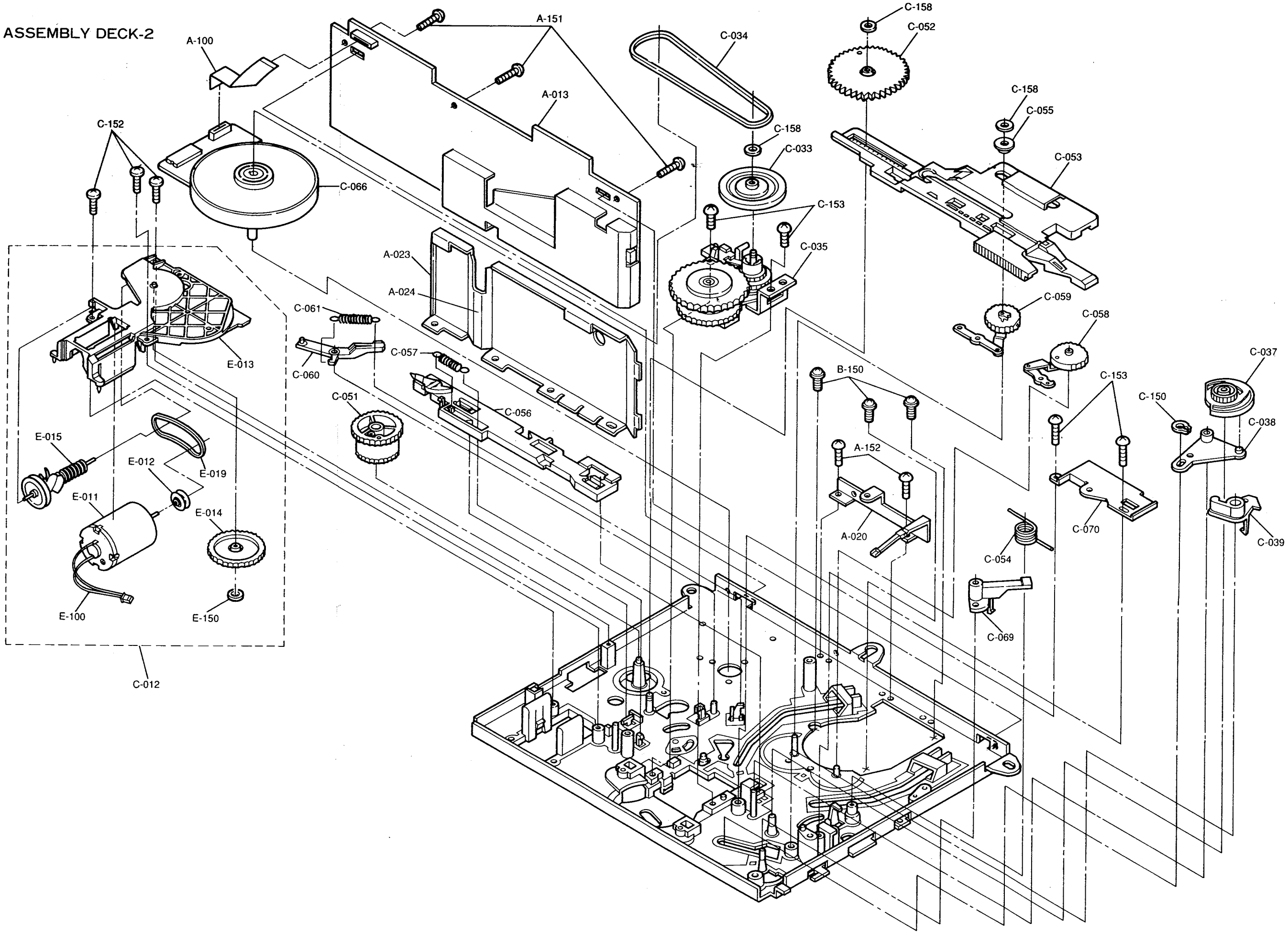
SYMBOL NO.	ADDRESS
R5M7	B – 5
R5M8	E – 3
R5M9	E – 4
R5N0	E – 4
R5N2	E – 4
R5N3	D – 3
R5N4	D – 3
R5N8	D – 3
R5N9	D – 2
R5P0	D – 3
R5P1	D – 3
R5P2	D – 3
R5P2	D – 3
R5P4	D – 3
R5P5	D – 3
R5P6	D – 3
R5P7	D – 3
R5P8	D – 3
R5P9	D – 3
R5R0	C – 2
R5R1	C – 2
R5R3	C – 2
R5R4	C – 2
R5R5	C – 2
R5R6	C – 2
R5S0	D – 1
R5S1	D – 1
R5S2	E – 6
R5U0	E – 3
R5U1	D – 3
R5V0	E – 7
R5V1	E – 7
R5V2	E – 7
R5V6	C – 1
R5W5	D – 1
R5W6	D – 6
R5W7	E – 4
R5W8	E – 3
R5W9	E – 4
R5X0	D – 3
R5X1	E – 4
R5X2	E – 3
R5X5	C – 4
R5X7	C – 3
R5X8	C – 1
R5X9	D – 1
R5Y0	D – 2
R5Y2	D – 1
R5Y5	D – 1
R5Y6	D – 2
R5Y7	C – 2
R5Y8	C – 2
R5Z1	E – 2
R5Z2	E – 1
R5Z3	D – 2
R5Z4	D – 2
R5Z5	E – 6
R5Z6	D – 1
R5Z9	D – 1
R6A1	B – 6

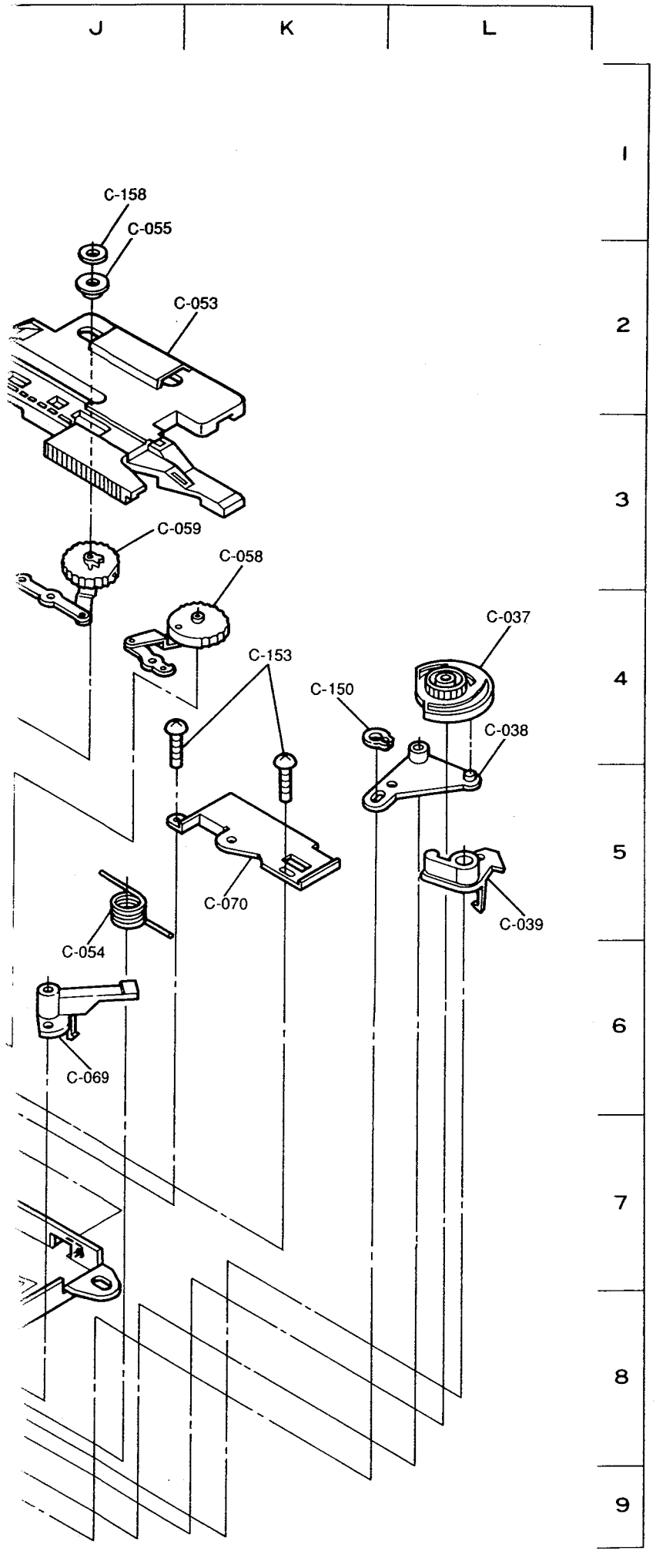
SYMBOL NO.	ADDRESS
R6A2	A – 4
R6A3	B – 5
R6A4	B – 5
R6A5	B – 4
R6A7	A – 4
R6A8	A – 4
R6B0	A – 4
R6B1	B – 4
R6B2	B – 5
R6B6	B – 6
R6B7	B – 5
R6B8	B – 5
R6B9	B – 5
R6C0	A – 5
R6C1	A – 5
R6C2	A – 6
R6C3	B – 4
R6C4	C – 6
R6D0	B – 5
R6E0	B – 4
R6X0	A – 5
R6X1	A – 5
RJ01	A – 6
RJ01	B – 1
RJ02	B – 1
RJ03	A – 2
RJ05	A – 5
RJ06	A – 5
RJ07	A – 6
RJ08	D – 2
RJ09	D – 2
RJ10	E – 2
RJ11	D – 3
RJ12	D – 3
RJ13	E – 4
RJ14	D – 5
RJ15	D – 6
RJ16	E – 3
RJ17	A – 6
RJ18	B – 2
RJ22	C – 2
RJ30	E – 4
RJ40	E – 4
RJ41	E – 4
S01	A – 1
S2A1	A – 3
S5A0	E – 6
TP10	C – 1
TP11	B – 1
TP12	C – 1
TP13	B – 1
TP1S	C – 1
TP2A	B – 5
TP2B	B – 4
TP2C	A – 4
TP2E	A – 4
TP2G	A – 4

SYMBOL NO.	ADDRESS
TP2H	B – 5
TP2J	A – 3
TP2M	A – 4
TP2S	B – 4
TP3B	A – 1
TP3C	A – 2
TP3H	B – 2
TP3L	B – 1
TP3M	C – 1
TP3P	A – 2
TP3R	B – 1
TP3W	B – 1
TP5A	D – 1
TP5B	E – 1
TP5C	D – 1
TP5D	E – 1
TP5F	E – 1
TP5X	C – 1
TP5Y	D – 3
TP6C	A – 4
TP9A	B – 1
TP9C	B – 1
TP2AH	A – 5
TP2P0	A – 3
TP2P1	B – 6
TP2P2	A – 4
TP2P3	A – 4
TP2P5	A – 4
TP2P6	A – 3
TP2P7	A – 3
TP2P8	A – 3
TP2P9	A – 3
TP2W0	A – 3
TP4C0	E – 4
TP4C1	E – 5
TP4C2	E – 6
TP4D1	D – 5
TP4D2	D – 5
TP4F1	C – 5
TP4G1	E – 6
TP4M1	C – 5
TP5J0	E – 6
TP5J1	E – 1
TP5J2	E – 1
TP5J3	E – 1
TP5J4	E – 1
TP5J5	E – 2
TP5J6	C – 4
TP5J8	E – 3
TP5J9	E – 4
TP5K1	D – 1
TP5K2	D – 1
TP5K3	D – 1
TP5K4	E – 4
TU01	C – 1
VL6A0	A – 5
VR103	A – 2

SYMBOL NO.	ADDRESS
VR2A0	A – 3
VR2A1	A – 3
VR2A2	A – 3
VR2A5	A – 4
VR2K0	A – 6
VR2M0	A – 3
VR3S0	A – 2
VR3S1	B – 2
VR3S2	A – 2
VR3S3	A – 2
VR5A0	C – 1
VR6A0	A – 5
X2G0	A – 3
X5A0	C – 2
X5A1	C – 2
X6A0	A – 4

ASSEMBLY DECK-2



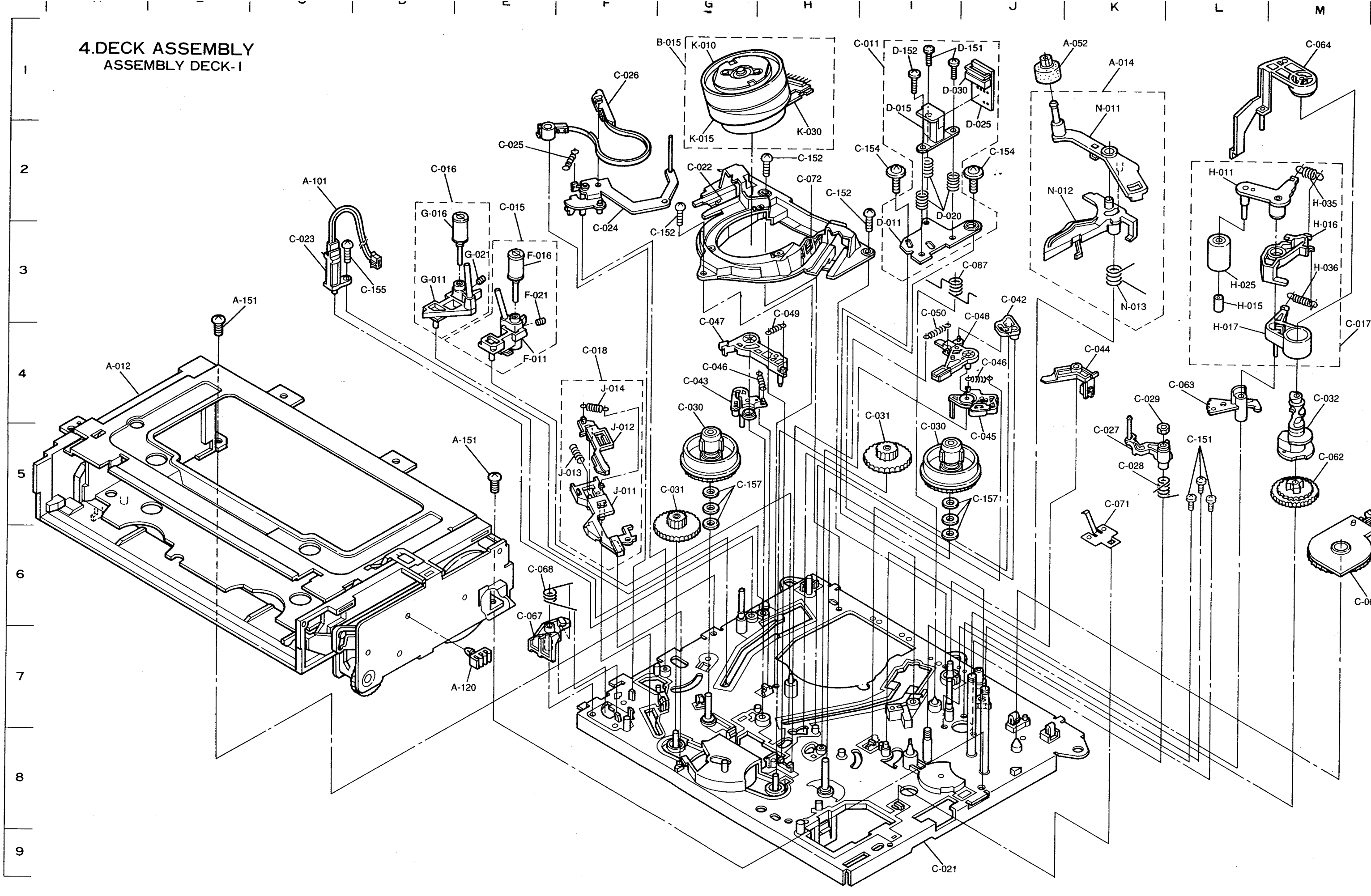


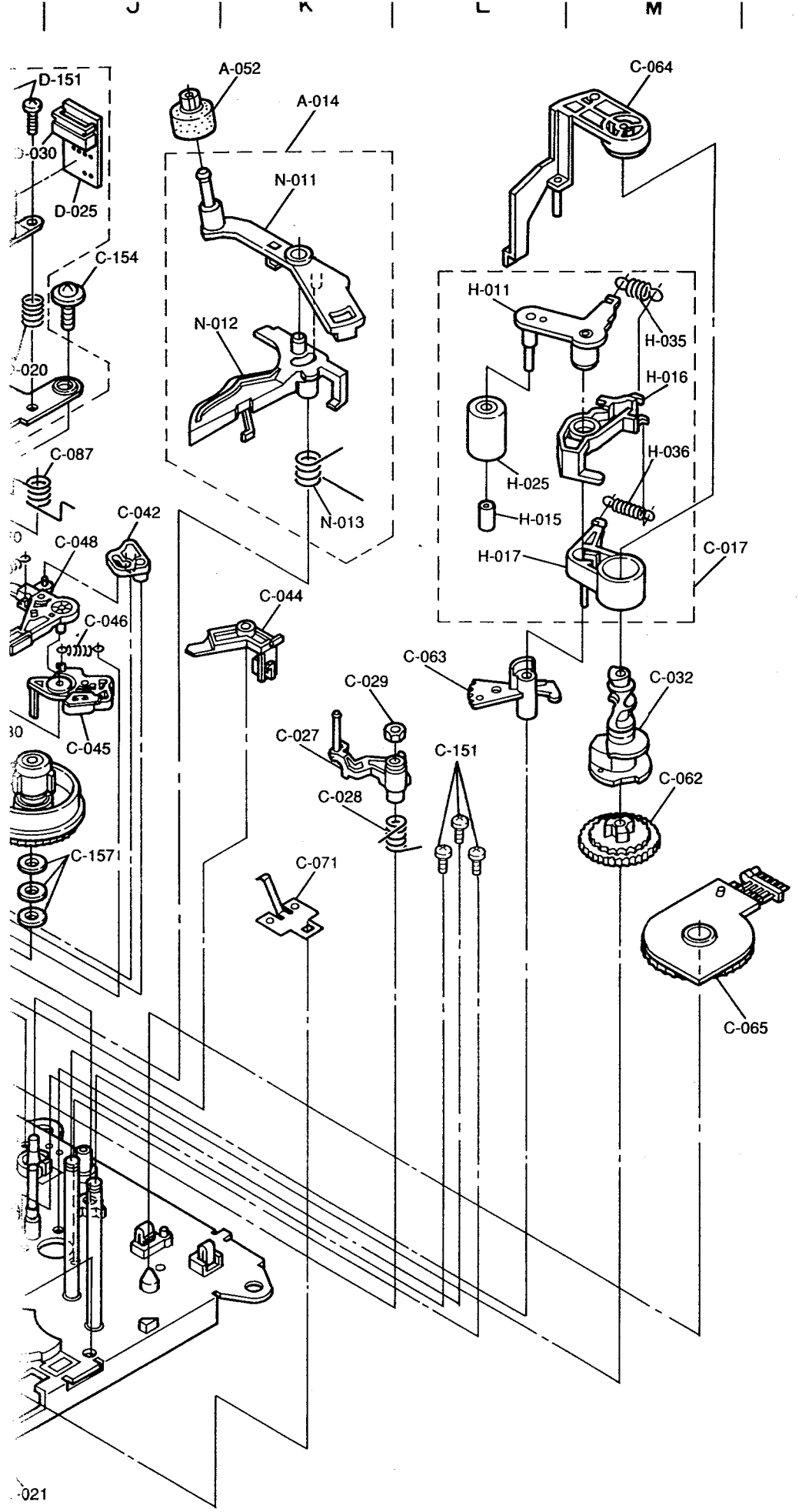
＊Settelled Service Parts

ITEM	PARTS No.	＊	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
A-013	927B455005		F-2		ASSY-PWB-HA/AUDIO		01
C-012	928D105001		B-7		ASSY-L-MOTOR		01
E-011	288D034010	○	B-5		MOTOR-LOADING		01
E-012	622D220010		B-5		PULLEY-MOTOR		01
E-013	641B640010		C-4		HOLDER-MOTOR-J		01
E-014	621C258010	○	C-6		GEAR-A		01
E-015	621C259010	○	A-5		PULLEY-WORM-J		01
E-019	521D082010	○	C-5		BELT-LM		01
E-100	248B173020		B-6		LEAD-CONNECTOR-S		01
E-150	552C018020		C-6		CUT-WASHER	2.5×4.7×0.5	01
A-020	299C030010	○	I-5		BRUSH		01
A-021	292B204010		F-4		SHIELD-COVER-HA		01
A-100	243C125010	○	C-1		LEAD-CARD		01
A-151	669D224020		E-1	E-2	SCREW-TB	2.6×8	03
			G-2				
A-152	669D224010		I-5		SCREW-TB	2.6×6	02
B-150	669D200020		I-4		SCREW-SEMS	M2.6×0.45-6	03
C-033	621C254020	○	H-2		PULLEY-BELT		01
C-034	521D086010	○	G-1		BELT-REEL-J		01
C-035	522B057010	○	H-3		UNIT-REEL-IDLER		01
C-037	621C235010	○	L-4		CAM-GEAR-R		01
C-038	622D229010	○	L-5		LEVER-CHARGE		01
C-039	622D223010	○	L-5		LEVER-T-OFF		01
C-051	621C257010	○	D-5		GEAR-JOINT-J		01
C-052	641B637010	○	I-1		MAIN-GEAR-J		01
C-053	641A311010	○	J-2		PLATE-CAM-B		01
C-054	572D640010		J-5		SPRING-CAM-B		01
C-055	622D224010	○	J-2		ROLLER-B		01
C-056	641B636010	○	E-4		PLATE-CAM-C		01
C-057	572D636010	○	E-4		SPRING-CAM-C		01
C-058	592B048010	○	K-4		ARM-LOAD-S		01
C-059	592B047010	○	J-4		ARM-LOAD-T		01
C-060	621C261010	○	D-4		BRAKE-CP		01
C-061	572D645010	○	D-3		SPRING-B-CP		01
C-066	288P126010	○	C-2		MOTOR-CP	M470	01
C-069	621C308010	○	J-6		ARM-RIS		01
C-070	593C532010	○	K-5		PLATE-J		01
C-150	685C009010		K-4		GRIP-RING		01
C-152	669D224020		B-2		SCREW-TB	2.6×8	03
C-153	669D224010		K-4	K-5	SCREW-TB	2.6×6	04
			G-3	H-3			
C-158	552C018010	○	J-2	I-1	CUT-WASHER	2.5×6.0×0.5	03
			H-2				

4.DECK ASSEMBLY

ASSEMBLY DECK-I





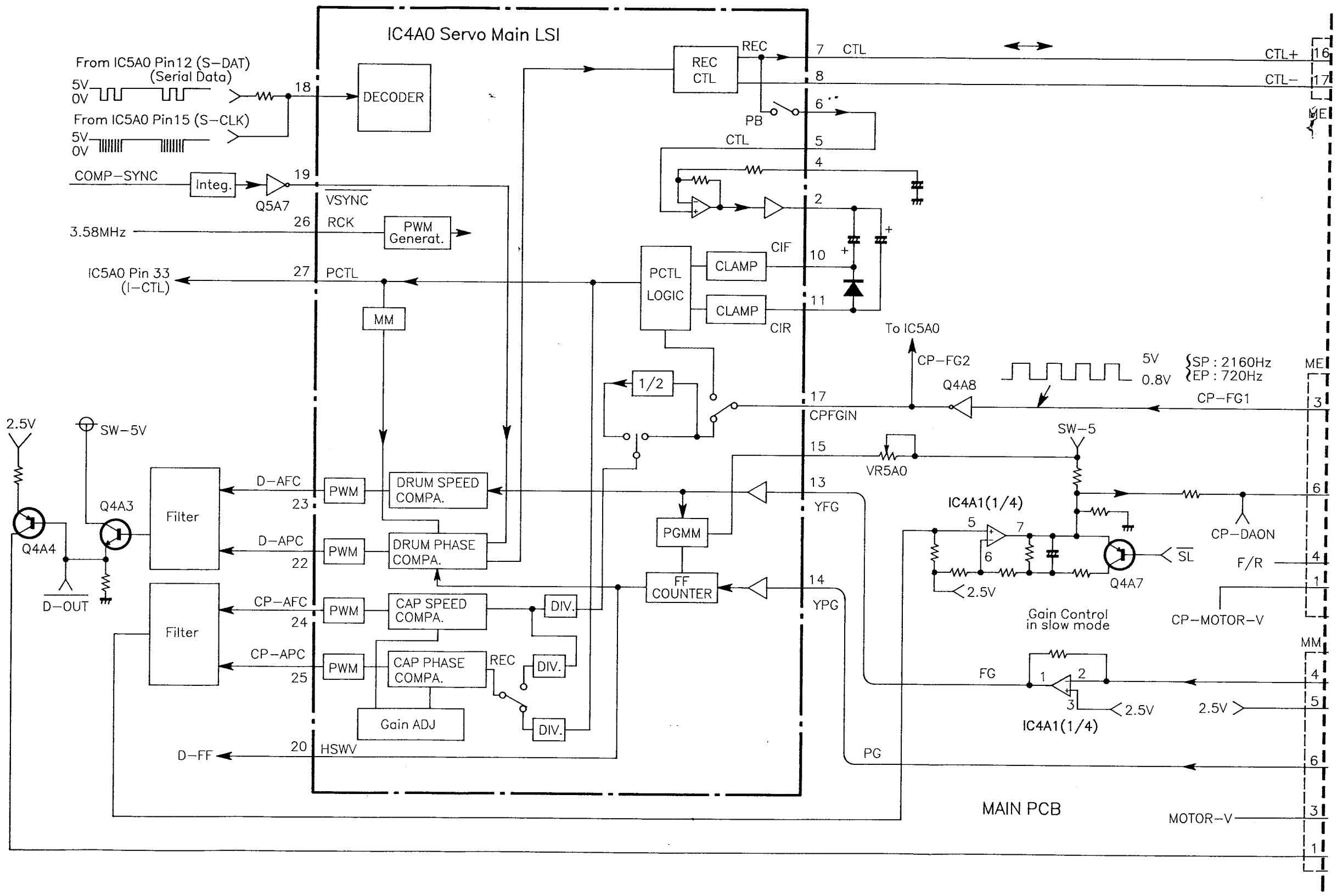
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
A-012	948A155001	○	A-4		ASSY-F/L-J		01
A-014	948B349001		K-2		ASSY-CLE		01
N-011	641B680010	○	K-2		ARM-CLE		01
N-012	641B681010	○	K-3		LEVER-CLE		01
N-013	572D703010	○	K-3		SPRING-CLE		01
B-015	948B337004	○	G-2		ASSY-DRUM		01
K-010	927B682018	○	G-1		ASSY-UPPR-DRUM		01
K-015	927B681004	○	G-2		ASSY-LOWER-DRUM		01
K-030	288P088060	○	H-2		MOTOR-DRUM	M570	01
C-011	928D104002	○	I-1		ASSY-A/C-HEAD		01
D-011	593C399010		I-2		PLATE-A/C		01
D-015	460P060060	○	I-1		HEAD	T370	01
D-020	572D639010		I-2		SPRING-A/C		03
D-025	215C730010		J-1		PWB-A/C-JA		01
D-030	452C140060		J-1		CONNECTOR-PC2M(S)		01
D-151	669D483010		I-1		SCREW	M2.6×8	02
D-152	669D485010		I-1		SCREW	2.6×8	01
C-015	948D042001	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042002	○	E-3		ASSY-TAPE-GUIDE-T		01
C-015	948D042003	○	E-3		ASSY-TAPE-GUIDE-T		01
F-011	635B085010	○	E-4		TAPE-GUIDE-T		01
F-011	635B085020	○	E-4		TAPE-GUIDE-T		01
F-011	635B085030	○	E-4		TAPE-GUIDE-T		01
F-016	522D177010	○	E-3		GUIDE-ROLLER		01
F-021	669D197020		E-4		SET-SCREW-F	D=M3×0.5 L=4	01
C-016	948D043001	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043002	○	D-3		ASSY-TAPE-GUIDE-S		01
C-016	948D043003	○	D-3		ASSY-TAPE-GUIDE-S		01
G-011	635B086010	○	D-3		TAPE-GUIDE-S		01
G-011	635B086020	○	D-3		TAPE-GUIDE-S		01
G-011	635B086030	○	D-3		TAPE-GUIDE-S		01
G-016	522D177010	○	D-3		GUIDE-ROLLER		01
G-021	669D197020		E-3		SET-SCREW-F	D=M3×0.5 L=4	01
C-017	948D044001	○	M-3		ASSY-ARM-PINCH		01
H-011	593C465010		L-2		ARM-PINCH		01
H-015	622D235010	○	L-3		CAP-ROLLER		01
H-016	621C243010		M-3		LEVER-PINCH		01
H-017	621C241010		M-3		SLIDER-PINCH		01
H-025	522D174010	○	L-3		ROLLER-PINCH		01
H-035	572D314010	○	M-2		SPRING-PINCH		01
H-036	572D714010	○	M-3		SPRING-CAM-PINCH		01
C-018	948C315001		F-4		ASSY-CHARGE		01
J-011	641B629010	○	F-6		LEVER-SWING-ID		01
J-012	621C238010	○	F-5		LEVER-REV		01
J-013	572D684010		F-5		SPRING-CHARGE		01
J-014	572D624010	○	F-5		SPRING-REV		01
C-021	948A159001		I-9		ASSY-MAIN-PLATE		01
C-022	635A038010		G-2		DRUM-BASE		01
C-023	460P055040	○	C-3		HEAD-FE	T371	01
C-024	592B049010	○	F-3		ARM-TENSION		01
C-025	572D627010	○	F-2		SPRING-TENS		01
C-026	641B624020	○	F-2		BELT-TENS-BRAKE		01
C-027	635B084010	○	K-5		ARM-TU-G		01
C-028	572D647010	○	K-5		SPRING-TU-G		01
C-029	674D081020	○	K-5		NUT-NYLON	M3×0.5	01
C-030	522C092010	○	I-5	G-5	UNIT-REEL-DISK		02
C-031	621C234010	○	I-5	G-6	GEAR-R		02
C-032	641B630010	○	M-4		CAM-PINCH-J		01

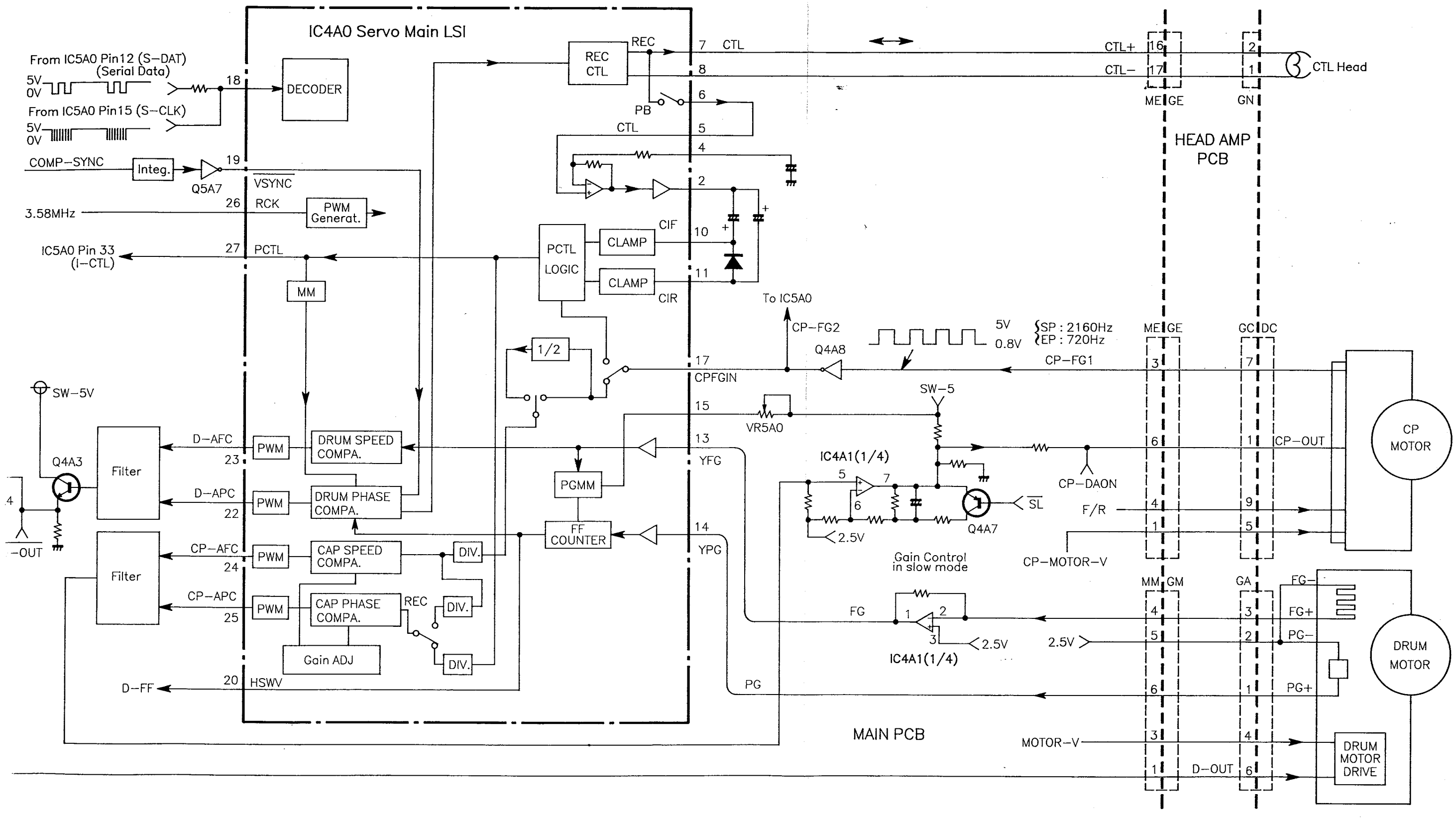
* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
C-042	621C315010	○	J-4		LEVER-SUB-OFF		01
C-043	641B635020	○	G-4		BRAKE-MAIN-S		01
C-044	622D219010	○	K-4		LEVER-RELEASE-M/B		01
C-045	641B634020	○	J-4		BRAKE-MAIN-T		01
C-046	572D635010	○	H-4	J-4	SPRING-M/B-J		02
C-047	641B633010	○	G-4		BRAKE-SUB-S		01
C-048	641B632010	○	I-4		BRAKE-SUB-T		01
C-049	572D623010	○	H-4		SPRING-SUB-S		01
C-050	572D625010	○	I-4		SPRING-SUB-T		01
C-062	621C240010	○	M-5		GEAR-PINCH		01
C-063	635C098010	○	L-4		GEAR-TU-G		01
C-064	641B628010	○	M-1		CAP-CAM-PINCH		01
C-065	439P031010	○	N-6		SW-MODE-J	S570	01
C-067	641B641010	○	E-7		LEVER-RIS		01
C-068	572D646010	○	E-6		SPRING-RIS		01
C-071	597D102010		K-5		PLATE-EB		01
C-072	572D712010	○	H-3		SPRING-DB		01
C-087	572D697010		I-3		SPRING-AC-EARTH		01
C-151	669D285040		L-5		SCREW-TB-PAN	M2.6×8	03
C-152	669D224020		G-3 I-3	H-2	SCREW-TB	2.6×8	03
C-154	669D476020	○	I-2	J-2	SCREW-TB-SEMS	2.6×8	02
C-155	669D224030		D-3		SCREW-TB	2.6×10	01
C-157	552C017030	○	G-5	J-5	WASHER-THRUST	2.5×6×0.13	06
A-052	621C033010	○	J-1		UNIT-CLE-ROLLER		01
A-101	248B173010		C-3		LEAD-CONNECTOR-S		01
L-045	641C685010		E-7		CLAMPER-LEAD-F/L		01
A-151	669D224020		B-4	E-5	SCREW-TB	2.6×8	02

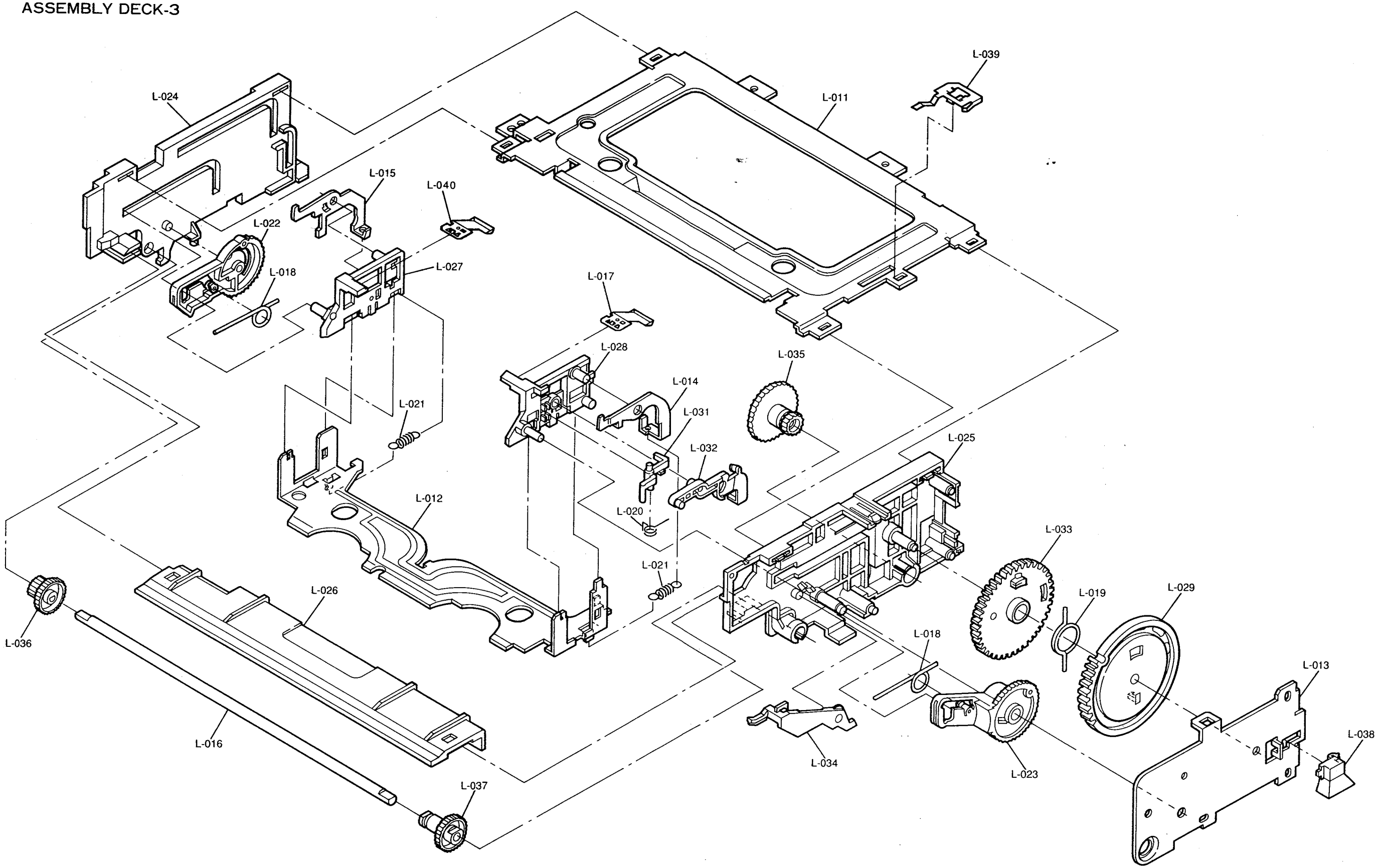
Servo System (HS-U500/HS-U550) (SV00612C)

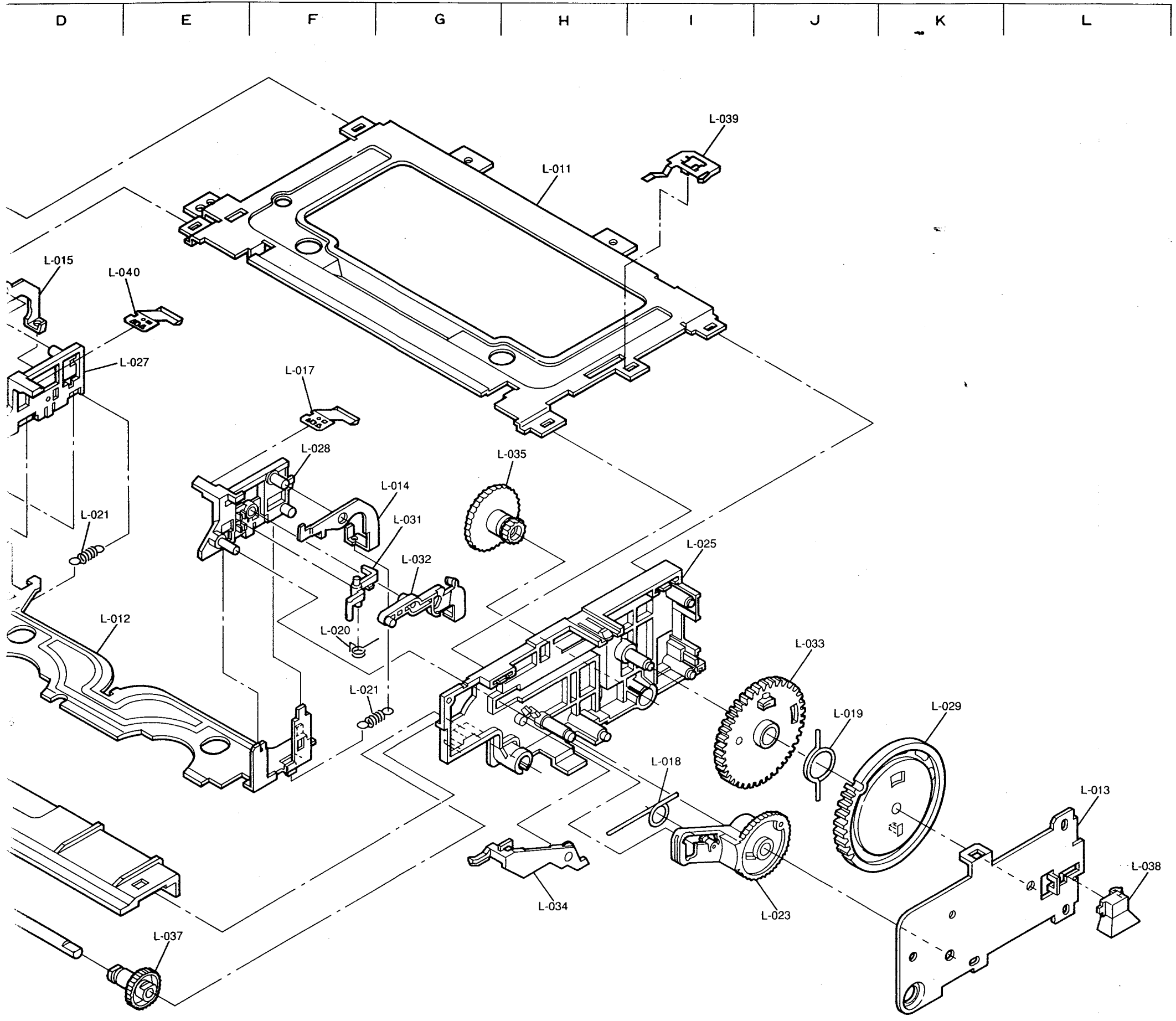


Servo System (HS–U500/HS–U550) (SV00612C)



ASSEMBLY DECK-3





* Settelled Service Parts

ITEM	PARTS No.	*	ADDRESS		PARTS NAME	DESCRIPTION	Qt.
L-011	592B050010		H-2		PLATE-ROOF		01
L-012	592B051010		D-5		PLATE-BOTTOM		01
L-013	592B079010		L-7		PLATE-SIDE		01
L-014	596D986010		F-4		LEVER-LOCK-T		01
L-015	596D987010		D-3		LEVER-LOCK-S		01
L-016	631D443010		C-7		SHAFT-FL		01
L-017	572D634010		F-4		PLATE-SPR		01
L-018	572D631010	○	C-4	I-7	SPRING-ARM		02
L-019	572D632010		J-6		SPRING-CHIP		01
L-020	572D633010		F-5		SPRING-JUT		01
L-021	572D630010		D-5	F-6	SPRING-LOCK-T		02
L-022	621C250010	○	C-3		ARM-SP		01
L-023	641B627010	○	I-7		ARM-TU		01
L-024	641A313010		B-2		HOLDER-SIDE-SP		01
L-025	641A312010		I-5		HOLDER-SIDE-TU		01
L-026	621C249010		C-6		GUIDE-INSERT		01
L-027	641B626010		D-3		HOLDER-CAS-SP		01
L-028	641B638010		F-4		HOLDER-CAS-TU		01
L-029	641B625010	○	K-7		GEAR-SENS		01
L-031	622D231010	○	F-5		JUT-J		01
L-032	621C245010		G-5		OPENER-LID		01
L-033	622D227010	○	J-6		GEAR-DRIVE		01
L-034	622D230010	○	H-7		ARM-DOOR		01
L-035	621C252010	○	G-4		GEAR-WHEEL		01
L-036	622D225010	○	A-6		GEAR-S		01
L-037	622D226010	○	E-8		GEAR-T		01
L-038	622D228010		L-7		COVER-SENS		01
L-039	597D085010		I-2		PLATE-EARTH		01
L-040	572D634020		D-3		PLATE-SPR		01